

# Acceptance bitcoin as digital currency in Croatia

---

**Bedeković, Mladena; Suk, Dominik; Kadlec, Željka**

*Source / Izvornik:* **5. Međunarodni znanstveni simpozij Gospodarstvo istočne Hrvatske - jučer, danas, sutra, 2016, 1033 - 1041**

**Conference paper / Rad u zborniku**

*Publication status / Verzija rada:* **Published version / Objavljena verzija rada (izdavačev PDF)**

*Permanent link / Trajna poveznica:* <https://um.nsk.hr/um:nbn:hr:165:289971>

*Rights / Prava:* [In copyright](#)/[Zaštićeno autorskim pravom.](#)

*Download date / Datum preuzimanja:* **2025-03-15**

*Repository / Repozitorij:*



Veleučilište u Virovitici

[Virovitica University of Applied Sciences Repository - Virovitica University of Applied Sciences Academic Repository](#)



DIGITALNI AKADEMSKI ARHIVI I REPOZITORIJI



UNIVERSITY OF  
J. J. STROSSMAYER  
IN OSIJEK

**efos**

FACULTY OF  
ECONOMICS  
IN OSIJEK



CROATIAN  
ACADEMY OF  
ARTS AND SCIENCES  
The Institute for  
scientific and art research  
work in Osijek



UNIVERSITY  
IN MARIBOR  
Faculty of  
Economics  
and Business



UNIVERSITY IN  
TUZLA  
Faculty of  
Economics in Tuzla

## **5. Međunarodni znanstveni simpozij GOSPODARSTVO ISTOČNE HRVATSKE - VIZIJA I RAZVOJ**

## **5<sup>th</sup> International Scientific Symposium ECONOMY OF EASTERN CROATIA - VISION AND GROWTH**

ISSN 1848-9559



9 771848 955005

**Osijek, 2016.**



SVEUČILIŠTE J. J.  
STROSSMAYERA  
U OSIJEKU



EKONOMSKI  
FAKULTET  
U OSIJEKU



HRVATSKA  
AKADEMIJA  
ZNANOSTI I  
UMJETNOSTI  
Zavod za  
znanstveni i  
umjetnički rad u  
Osijeku



UNIVERZA  
V  
MARIBORU  
Ekonomsko-  
poslovna  
fakulteta



UNIVERZITET  
U  
TUZLI  
Ekonomski  
fakultet u Tuzli

UNIVERSITY OF J.  
J. STROSSMAYER  
IN OSIJEK

FACULTY  
OF  
ECONOMICS  
IN OSIJEK

CROATIAN  
ACADEMY OF  
ARTS AND  
SCIENCES  
The Institute for  
scientific and art  
research work in  
Osijek

UNIVERSITY  
IN MARIBOR  
Faculty of  
Economics  
and Business

UNIVERSITY  
IN  
TUZLA  
Faculty of  
Economics in  
Tuzla

## 5.

### MEĐUNARODNI ZNANSTVENI SIMPOZIJ GOSPODARSTVO ISTOČNE HRVATSKE – VIZIJA I RAZVOJ

## 5<sup>th</sup>

### INTERNATIONAL SCIENTIFIC SYMPOSIUM ECONOMY OF EASTERN CROATIA – VISION AND GROWTH

Pokrovitelj: / Under the auspices of:

**MINISTARSTVO GOSPODARSTVA RH**

**MINISTRY OF ECONOMY  
OF REPUBLIC OF CROATIA**

U Osijeku, 02.- 04. lipnja 2016.  
Osijek, 02<sup>nd</sup> – 04<sup>th</sup> June 2016

*Nakladnici / Publishers*  
Sveučilište Josipa Jurja Strossmayera u Osijeku  
Ekonomski fakultet u Osijeku

*Za nakladnike / For the publishers*  
Prof. dr. sc. Anka Mašek Tonković, Ekonomski fakultet u Osijeku

*Programski odbor / Programme committee*  
Prof. dr. sc. Vladimir Cini, predsjednik, Ekonomski fakultet u Osijeku  
Prof. dr. sc. Marko Backović, Srbija  
Professor emeritus prof. dr. sc. Dražen Barković, Hrvatska  
Prof. dr. sc. Samo Bobek, Slovenija  
Prof. dr. sc. Saša Bošnjak, Srbija  
Prof. dr. sc. Małgorzata Gajos, Poljska  
Prof. dr. sc. Peter J. Halls, Engleska  
Dr. sc. Dražen Kušen, Hrvatska  
Dr. sc. Safet Kozarević, Bosna i Hercegovina  
Prof. dr. sc. Szerb Laszlo, Mađarska  
Prof. dr. sc. Alessio Lokar, Italija  
Prof. dr. sc. Zsolt Lukáč, Slovakia  
Prof. dr. sc. Dragan Milanović, Hrvatska  
Professor emeritus prof. dr. sc. Stanislav Marijanović, Hrvatska  
Akademkinja prof. dr. sc. Vlasta Piližota, Hrvatska  
Prof. dr. sc. Bodo Runzheimer, Njemačka  
Professor emeritus prof. dr. sc. Slavica Singer, Hrvatska  
Prof. dr. sc. Franz Wurm, Austrija  
Prof. dr. sc. Zlata Živaković Kerže, Hrvatska

*Organizacijski odbor / Organizing Committee*  
Prof. dr. sc. Anka Mašek Tonković, predsjednica, Ekonomski fakultet u Osijeku  
Katica Križanović, univ.spec.oec., koordinatorica, Hrvatska  
Prof. dr. sc. Sunčica Oberman Peterka, Hrvatska  
Doc. dr. sc. Mirela Alpeza, Hrvatska  
Doc. dr. sc. Dražen Čučić, Hrvatska  
Doc. dr. sc. Anamarija Delić, Hrvatska  
Doc. dr. sc. Dražen Čučić, Hrvatska  
Doc. dr. sc. Nataša Drvenkar, Hrvatska  
Doc. dr. sc. Ivana Fosić, Hrvatska  
Tihana Koprivnjak, mag.oec., Hrvatska  
Petra Mezulic Juric, mag.oec., Hrvatska  
Doc. dr. sc. Ljerka Sedlan König, Hrvatska  
Doc. dr. sc. Julia Perić, Hrvatska  
Ana Živković, mag.oec., Hrvatska

*Urednica / Editor*  
Prof. dr. sc. Anka Mašek Tonković, Ekonomski fakultet u Osijeku

*Tehnička podrška / Technical Support*  
Dominik Osmeričić, univ.bacc.oec.  
Katica Križanović, univ.spec.oec.

*Recenzenti / Reviewers*  
Professor emeritus prof. dr. sc. Slavica Singer, Hrvatska  
Prof. dr. sc. Anka Mašek Tonković, Hrvatska  
Prof. dr. sc. Bahrija Umihanić, Bosna i Hercegovina  
Prof. dr. sc. Małgorzata Gajos, Poljska

*Prijevod / Translation and reader*  
Igor Barišić, prof.

*Tisak / Print*  
Studio HS internet d.o.o., Osijek

*Dosadašnji zbornici radova indeksirani: / Proceedings indexed in:*



THOMSON REUTERS

**Web of Science®**

**EconPapers**

ISSN 1848-9559



**5. MEĐUNARODNI ZNANSTVENI SIMPOZIJ  
GOSPODARSTVO ISTOČNE HRVATSKE – VIZIJA I RAZVOJ**

**5<sup>th</sup> INTERNATIONAL SCIENTIFIC SYMPOSIUM  
ECONOMY OF EASTERN CROATIA – VISION AND GROWTH**

# Sadržaj / Content

Predgovor / Foreword.....19

Tematska područja / Topics .....22

**1. Povijesna naslijeđa u razvoju istočne Hrvatske / Historical heritage in a function of the development of the eastern Croatia..... 23**

*Vjekoslav Galžina; Damir Matanović; Emina Berbić Kolar:*

OPPORTUNITIES FOR SUSTAINABLE SAFEGUARDING OF THE INDUSTRIAL HERITAGE – ĐURO ĐAKOVIĆ INDUSTRY SLAVONSKI BROD / PRILIKE ZA ODRŽIVO OČUVANJE INDUSTRIJSKE BAŠTINE – INDUSTRIJA ĐURO ĐAKOVIĆ SLAVONSKI BROD .....24

*Miro Gardaš:*

LEGAL ACTIONS AGAINST CRAFTSMEN IN OSIJEK AFTER THE END OF WORLD WAR II / PRAVNE MJERE PROTIV OBRTNIKA U OSIJEKU NAKON ZAVRŠETKA DRUGOG SVJETSKOG RATA.....31

*Dunja Halapija Kazija; Tvrtko Jelačić; Stjepan Galović:*

BIODIVERSITY (CONSERVATION) OF PLUMS IN SLAVONIA THROUGH TRADITION OF PLUM BRANDY MAKING / POVEZANOST DUGOTRAJNE TRADICIJE PEČENJA RAKIJE S BIOLOŠKOM RAZNOLIKOSTI ŠLJIVA U SLAVONIJI..42

*Milan Ivanović; Stjepan Vidaković:*

HISTORY OF IMPLEMENTED ENTREPRENEURIAL ACTIVITIES IN SLAVONIA AND BARANJA FROM 1969th TO 1989th / POVIJEST PROVEDENIH PODUZETNIČKIH AKTIVNOSTI U SLAVONIJI I BARANJI U RAZDOBLJU OD 1969. DO 1989. GODINE .....49

*Darija Kuharić; Marina Vinaj; Ines Hocenski:*

FAMILY MOSAIC - A PRIVATE COLLECTION OF MANUSCRIPT RECIPE BOOKS / OBITELJSKI MOZAIK - PRIVATNA ZBIRKA RUKOM PISANIH RECEPATA .....61

*Višnja Lachner; Jelena Roškar:*

THE IMPACT OF THE TRIANON TREATY ON THE ECONOMIC SITUATION OF “BELJE” / UTJECAJ TRIANONSKOG SPORAZUMA NA GOSPODARSKI POLOŽAJ „BELJA“ .....70



**2. Novi trendovi u razvoju gospodarstva / New trends in economic development..... 79**

***Mirela Alpeza; Petra Mezulić Juric; Sunčica Oberman Peterka:***

THE CHALLENGES OF SURVIVAL OF SMALL AND MEDIUM ENTERPRISES OF EASTERN CROATIA IN BUSINESS TRANSFER PROCESSES / IZAZOVI OPSTANKA MALIH I SREDNJIH PODUZEĆA ISTOČNE HRVATSKE U PROCESIMA PRIJENOSA POSLOVANJA..... 80

***Andrea Arbula Blecich; Ivana Tomas Žiković:***

EVALUATION OF RELATIVE EFFICIENCY OF HIGHER EDUCATION INSTITUTIONS OF ECONOMIC ORIENTATION / VREDNOVANJE RELATIVNE EFIKASNOSTI VISOKOOBRAZOVNIH INSTITUCIJA EKONOMSKOG USMJERENJA..... 91

***Goran Becker; Tanja Broz; Tomislav Ridzak:***

IMPACT OF STATE GUARANTEES ON TRENDS IN SMALL AND MEDIUM-SIZED ENTERPRISES IN EASTERN CROATIA / UTJECAJ DRŽAVNIH JAMSTAVA NA KRETANJA U MALOM I SREDNJEM PODUZETNIŠTVU U ISTOČNOJ HRVATSKOJ..... 101

***Ivana Bujan; Branka Crnković-Stumpf:***

PERFORMANCE ANALYSIS OF SMALL FAMILY HOTELS / MJERENJE USPJEŠNOSTI MALIH OBITELJSKIH HOTELA..... 113

***Maja Buljat; Suzana Đorđević:***

THE INFLUENCE OF TAX POLICY ON TOURISM / UTJECAJ POREZNE POLITIKE NA TURIZAM..... 122

***Admir Čavalić:***

CREATIVE INDUSTRIES OF TUZLA CANTON / KREATIVNE INDUSTRIJE TUZLANSKOG KANTONA..... 130

***Ivana Dražić Lutilsky; Martina Dragija; Petra Trbojević:***

ACCOUNTING TREATMENT AND MANIPULATION WITH THE CORPORATE INCOME TAX OF THE SMALL LIMITED LIABILITY COMPANIES / RAČUNOVODSTVENI TRETMAN I MANIPULACIJE POREZOM NA DOBIT U MALIM PODUZEĆIMA..... 141

***Lena Duspara; Sanja Knežević; Miroslav Duspara:***

STRUCTURE OF MANUFACTURING ENTERPRISES AND THEIR IMPACT ON ECONOMY IN BRODSKO POSAVSKA COUNTY / STRUKTURA PODUZEĆA PRERAĐIVAČKE INDUSTRIJE I NJEZIN UTJECAJ NA GOSPODARSTVO U BRODSKO POSAVSKOJ ŽUPANIJI..... 155

<b>Suzana Đorđević; Maja Buljat:</b> THE IMPACT OF FDI IN INFORMATION COMMUNICATION TECHNOLOGIES ON ECONOMIC PERFORMANCES IN CROATIA / UTJECAJ IZRAVNIH STRANIH ULAGANJA (FDI) U INFORMACIJSKU KOMUNIKACIJSKU TEHNOLOGIJU NA EKONOMSKE PERFORMANSE U HRVATSKOJ .....	163
<b>Siniša Franjić:</b> COMPUTER CRIME AND GLOBALIZATION / RAČUNALNI KRIMINALITET I GLOBALIZACIJA .....	170
<b>Mateja Gorše; Goran Kutnjak; Mirjana Grčić Fabić:</b> BRANDING OF KVARNER REGION AS A BATHING DESTINATION / BRANDIRANJE KVARNERA KAO KUPALIŠNE DESTINACIJE.....	179
<b>Vladimir Grebenar; Eugenija Nemeth; Josip Britvić:</b> WHOLESALE CUSTOMER AS A COST-OBJECT / KUPAC KAO NOSITELJ TROŠKA ....	190
<b>Adela Has; Marijana Zekić-Sušac:</b> CAN COMPANY CREDITWORTHINESS BE PREDICTED? – A NEURAL NETWORK APPROACH / MOŽE LI SE PREDVIDJETI KREDITNA SPOSOBNOST TVRTKE S POMOĆU NEURONSKIH MREŽA.....	198
<b>Lara Jelenc; John Pisapia; Valentina Ivančić:</b> STRATEGIC THINKING CAPABILITY AND ENTREPRENEURIAL ATTITUDE ORIENTATION: LINKS AND RELATIONS / SPOSOBNOST STRATEŠKOG PROMIŠLJANJA I PODUZETNIČKA ORIJENTACIJA TEMELJENA NA STAVU: POVEZNICE I ODNOSI.....	207
<b>Dragica Karajić; Tomislav Lneniček; Višnja Del Vechio:</b> HOW THE ENTREPRENEURIAL INNOVATIVE POLICY MEASURES ARE REFLECTED ON THE COMPETITIVENESS OF ENTERPRISES / ODRAZ PODUZETNIČKO INOVACIJSKIH POLITIKA NA KONKURENTNOST PODUZEĆA .....	216
<b>Andrijana Kos Kavran; Dina Lončarić; Jasmina Dlačić:</b> UGMENTED REALITY EXPERIENTIAL MARKETING IN TOURISM / MARKETING DOŽIVLJAJA UZ PROŠIRENU STVARNOST U TURIZMU .....	224
<b>Mira Krneta; Bahrija Umihanić; Sabina Đonlagić; Ana Marija Alfirević:</b> THE CRITICAL START-UP ENTERPRISE SUCCESS FACTORS: DEVELOPMENT OF A RESEARCH MODEL / KRITIČNI FAKTORI USPJEHA START-UP PODUZEĆA: RAZVOJ ISTRAŽIVAČKOG MODELA .....	234
<b>Jasminka Mihaljević; Marta Borić; Iva Buljubašić:</b> THE PLACE OF BOOKS AND LIBRARIES IN THE FRAMEWORK OF CULTURAL AND CREATIVE INDUSTRIES OF THE NEW AGE/ MJESTO KNJIGE I KNJIŽNICE U OKVIRU KULTURNE I KREATIVNE INDUSTRIJE NOVOGA DOBA .....	243

***Josipa Mijoč; Jasna Horvat; Ana Zrnić:***

POPULARIZATION SYMPOSIA AS A NEW ORGANIZATIONAL PLATFORM FOR MAJOR EVENTS –THE CASE OF CREATIVE TREASURY /POPULARIZACIJSKI SIMPOZIJ KAO NOVE ORGANIZACIJSKE PLATFORME ZA VAŽNA DOGAĐANJA – PRIMJER KREATIVNE RIZNICE.....255

***Eugenija Nemeth; Vladimir Grebenar; Josip Britvić:***

SEGMENTS PROFITABILITY ANALYSIS – MACS SYSTEM / POSLOVNA UČINKOVITOST SEGMENTATA - MACS SUSTAV .....267

***Sunčica Oberman Peterka; Tihana Koprivnjak; Mirjana Zvijerac:***

WOMEN AND ENTREPRENEURSHIP IN CROATIA – STEREOTYPES, IMPEDIMENTS, INCENTIVES / ŽENE I PODUZETNIŠTVO U HRVATSKOJ – STEREOTIPI, PREPREKE, POTICAJI.....276

***Zoltán Raffay; Mária Törőcsik;Viktória Gerdesics:***

FAST AND SLOW TOURISM – TOURISM PLANNING ON THE BASIS OF PACE OF LIFE / FAST I SLOW TURIZAM – PLANIRANJE TURIZMA NA OSNOVI ŽIVOTNOG RITMA.....288

***Željko Rička; Almir Alihodžić:***

LIQUIDITY MANAGEMENT BY ESTABLISHING FACTORING MARKET IN BOSNIA AND HERZEGOVINA/ UPRAVLJANJE LIKVIDNOŠĆU USTOJAVLJANJEM TRŽIŠTA FAKTORINGA U BOSNI I HERCEGOVINI.....298

***Ermina Smajlović; Boro Ninić:***

DETERMINANTS OF SELECTION OF WELLNESS CENTERS AND SATISFACTION OF VISITORS / DETERMINANTE IZBORA BANJE I ZADOVOLJSTVA POSJETILACA.....308

***Vesna Škare Ožbolt; Ivan Herak; Martina Herak:***

NAUTICAL TOURISM ON RIVERS ENCOURAGING DEVELOPMENT OF EASTERN CROATIA / RIJEČKI NAUTIČKI TURIZAM KAO POTICAJ RAZVOJU ISTOČNE HRVATSKE.....318

***Ivo Šperanda; Damir Piplica:***

APPLICATION OF THE COMPOUNDED CASH FLOW METHOD (CCF) / PRIMJENA METODE UKAMAĆIVNJA GOTOVINSKIH TJEKOVA (CCF).....327

***Boris Tušek; Ana Novak; Ivana Barišić:***

INTERNAL AUDIT ROLE IN CORPORATE GOVERNANCE - STATE AND FUTURE PERSPECTIVES / ULOGA INTERNE REVIZIJE U KORPORATIVNOM UPRAVLJANJU- STANJE I PERSPEKTIVE BUDUĆEG RAZVOJA.....338

**Edward Veckie; Ivan Uroda:**

RESEARCH INTO SIGNIFICANCE OF CROATIA IN CANADIAN IMPORTS AND EXPORTS WITHIN VARIOUS INDUSTRIES / ISTRAŽIVANJE O ZNAČAJNOSTI HRVATSKE U KANADSKOM UVOZU I IZVOZU UNUTAR RAZLIČITIH INDUSTRIJA.....347

**Zdravko Zekić; Luka Samaržija; Iva Šunjic:**

SCM - THE CONCEPT OF CREATING ADDED VALUE IN CROATIA'S FASHIONINDUSTRY / MOL - KONCEPT KREIRANJA DODANE VRIJEDNOSTI U MODNOJ INDUSTRIJI REPUBLIKE HRVATSKE .....357

**3. Ljudski kapital u funkciji društveno-ekonomskog razvoja regije / Human capital in a function of the socio-economic development of the region .....367**

**Andrea Arbula Blecich:**

THEORETICAL FRAMEWORK FOR EVALUATING THE EFFECTIVENESS OF HIGHER EDUCATION INSTITUTIONS / TEORIJSKI OKVIR ZA VREDNOVANJE EFEKTIVNOSTI VISOKOOBRAZOVNIH INSTITUCIJA.....368

**Josip Britvić; Vladimir Grebenar; Gabrijel Jakupec:**

INFLUENCE OF STANDARD ISO 9001:2015 ON HUMAN RESOURCE MANAGEMENT IN ORGANIZATION / UTJECAJ STANDARDA ISO 9001:2015 NA UPRAVLJANJE LJUDSKIM RESURSIMA U ORGANIZACIJI.....377

**Sabina Đonlagić Alibegović; Adisa Delić; Enis Fazlic:**

THE INFLUENCE OF TEAMWORK ON INNOVATIVENESS IN TOURISM ORGANIZATIONS IN BOSNIA AND HERZEGOVINA / UTICAJ TIMSKOG RADA NA INOVATIVNOST TURISTIČKIH ORGANIZACIJA U BOSNI I HERCEGOVINI .....385

**Mira Hajdić; Darko Rendulić; Andrijana Ostojić Mihić:**

STRATEGIC DEVELOPMENT AND INTEGRATION OF KNOWLEDGE MANAGEMENT THROUGH THE LIFE CYCLE OF CROATIAN ENTERPRISES: AN EMPIRICAL ANALYSIS / STRATEŠKI RAZVOJ I INTEGRACIJA UPRAVLJANJA ZNANJEM KROZ ŽIVOTNI CIKLUS HRVATSKIH PODUZEĆA: EMPIRIJSKA ANALIZA.....395

**Irena Ištoka Otković; Silvija Ručević; Tijana Borovac:**

PEDESTRIAN SAFETY OF CHILDREN IN AN URBAN TRANSPORTATION NETWORK – RESEARCH REVIEW / SIGURNOST PJEŠAČKOG KRETANJA DJECE U URBANOJ PROMETNOJ MREŽI – PREGLED ISTRAŽIVANJA .....405

<b><i>Krešimir Ižaković; Branko Jovanovac; Daria Župan:</i></b> INFLUENCE OF THE FREQUENCY OF PHYSICAL ACTIVITIES ON ANTHROPOMETRIC CHARACTERISTICS OF MALE AND FEMALE STUDENTS AT THE FACULTY OF AGRICULTURE IN OSIJEK / UTJECAJ UČESTALOSTI TJELESNIH AKTIVNOSTI NA ANTROPOMETRIJSKA OBILJEŽJA STUDENATA I STUDENTICA POLJOPRIVREDNOG FAKULTETA U OSIJEKU .....	414
<b><i>Renata Jukić; Vlatka Radaković:</i></b> EDUCATIONAL WORK IN PENAL INSTITUTIONS / ODGOJNO-OBRAZOVNI RAD U PENALNIM USTANOVAMA.....	421
<b><i>Željka Kadlec; Mladena Bedeković:</i></b> APPLICATION OF MARKETING ON INSTITUTIONS OF HIGHER EDUCATION / PRIMJENA MARKETINGA NA VISOKIM UČILIŠTIMA.....	432
<b><i>Sanja Knežević; Lena Duspara; Anita Kedačić:</i></b> THE IMPACT OF LOW LEVEL OF ECONOMIC DEVELOPMENT ON THE YOUTH LEAVING BROD POSAVINA COUNTY / UTJECAJ NISKE RAZINE RAZVOJA GOSPODARSTVA NA ODLAZAK MLADIH IZ BRODSKO POSAVSKE ŽUPANIJE.....	441
<b><i>Emira Kozarević; Meldina Kokorović Jukan; Jasmina Džafić:</i></b> IMPORTANCE OF FINANCIAL LITERACY FOR ORGANIZATIONAL DECISION MAKING TOWARDS ECONOMIC GROWTH: EVIDENCE FROM TUZLA CANTON, BOSNIA AND HERZEGOVINA / VAŽNOST FINACIJSKE PISMENOSTI KOD DONOŠENJA ORGANIZACIJSKIH ODLUKA USMJERENIH KA EKONOMSKOM RASTU: DOKAZI IZ TUZLANSKOG KANTONA, BOSNA I HERCEGOVINA .....	449
<b><i>Anita Kulaš:</i></b> ANALYSIS OF LABOUR FORCE AND (UN) EMPLOYMENT IN REPUBLIC OF CROATIA AND SELECTED MEMBER STATES OF EUROPEAN UNION / ANALIZA RADNE SNAGE I (NE) ZAPOSLENOSTI U REPUBLICI HRVATSKOJ I ODABRANIM DRŽAVAMA ČLANICAMA EUROPSKE UNIJE .....	459
<b><i>Antun Marinac; Nikolina Gazilj; Tena Emanović:</i></b> CONSTITUTIONAL AND DEVELOPMENTAL POSITION OF TERRITORIALY CONCENTRATED MINORITIES IN EASTERN CROATIA / USTAVNOPRAVNI I RAZVOJNI POLOŽAJ TERITORIJALNO KONCENTRIRANIH NACIONALNIH MANJINA U ISTOČNOJ HRVATSKOJ.....	464
<b><i>Ivana Martinović; Boris Badurina; Mateja Zuzjak:</i></b> CONTRIBUTION OF PUBLIC LIBRARIES TO THE INCREASE OF DIGITAL INCLUSION IN THE OSIJEK-BARANYA COUNTY / DOPRINOS NARODNIH KNJIŽNICA POVEĆANJU RAZINE DIGITALNE INKLUZIJE U OSJEČKO-BARANJSKOJ ŽUPANIJI.....	477

<b><i>Dragan Milanović; Sanja Šalaj; Miroslav Hrženjak:</i></b> ANALYSIS OF PROFESSIONAL WORKLOAD OF THE SPORT COACHES / ANALIZA RADNOG OPTEREĆENJA TRENERA U SPORTU .....	485
<b><i>Ivana Pavić; Ivana Mamić Sačer; Nikolina Dečman:</i></b> DO FREQUENT CHANGES OF IFRSs CAUSE PRACTICAL APPLICATION PROBLEMS IN CROATIA? / UZROKUJU LI UČESTALE PROMJENE IFRS-a PROBLEME PRAKTIČNE PRIMJENE U HRVATSKOJ? .....	492
<b><i>Željko Požega; Vjekoslav Leko; Miroslav Škoro:</i></b> ANALYSIS OF THE RELATIONSHIP BETWEEN THE HUMAN CAPITAL AND ECONOMIC DEVELOPMENT / ANALIZA POVEZANOSTI LJUDSKOG KAPITALA I GOSPODARSKOG RAZVOJA .....	503
<b><i>Iva Ribić; Anita Prelas Kovačević; Suzana Šmit:</i></b> HUMAN RESOURCES DEVELOPMENT IN VIROVITICA COUNTY / RAZVOJ LJUDSKIH POTENCIJALA VIROVITIČKO-PODRAVSKE ŽUPANIJE .....	512
<b><i>Ljerka Sedlan Kõnig; Tihana Koprivnjak; Petra Mezulić Juric:</i></b> EMPLOYERS' VIEWS ON STUDENTS' EMPLOYABILITY IN EASTERN CROATIA / POGLED POSLODAVACA NA ZAPOSŁLJIVOST STUDENATA U ISTOČNOJ HRVATSKOJ .....	520
<b><i>Sanja Sever Mališ; Mateja Brozović:</i></b> INDUSTRY SPECIALIZATION OF AUDIT FIRMS IN CROATIA / INDUSTRIJSKA SPECIJALIZACIJA REVIZORSKIH DRUŠTAVA U REPUBLICI HRVATSKOJ .....	534
<b><i>Jelena Šišara; Jasmina Sladoljev; Ana Udovičić:</i></b> IDENTIFYING MOTIVATIONAL FACTORS AND STUDENTS ENTREPRENEURIAL INTENTION / IDENTIFICIRANJE MOTIVACIJSKIH FAKTORA I PODUZETNIČKIH NAMJERA KOD STUDENATA .....	543
<b><i>Dario Škegro; Zrinko Čustonja; Dragan Milanović:</i></b> QUANTITATIVE ANALYSIS OF SPORT COACHES STATUS / KVANTITATIVNA ANALIZA OPĆEG STATUSA SPORTSKIH TRENERA .....	552
<b><i>Andreja Švigir; Ivana Mamić Sačer:</i></b> NON-FINANCIAL REPORTING IN CREATION OF AN INTEGRATED REPORTING SYSTEM / NEFINANCIJSKO IZVJEŠTAVANJE U IZGRADNJI INTEGRALNOG SUSTAVA IZVJEŠTAVANJA .....	560
<b><i>Mirela Tolić; Sara Pejaković:</i></b> SELF-ASSESSMENT OF DIGITAL COMPETENCES OF HIGHER EDUCATION PROFESSORS / SAMOPROCJENA DIGITALNIH KOMPETENCIJA NASTAVNIKA U VISOKOM OBRAZOVANJU .....	570

*Walter Vlad Veckie; Anka Mašek Tonković; Edward Anthony Veckie:*  
ROLE OF MENTORS IN LEADERS' PERFORMANCE / ULOGA MENTORA U  
DJELOTVORNOSTI LIDERA ..... 579

*Jasenska Vizentaner; Sabina Šegula:*  
CREATIVITY OF FLORIST BUSINESSMEN IN EASTERN SLAVONIA AND  
BARANJA / KREATIVNOST FLORISTA KAO POSLOVNIH LJUDI U ISTOČNOJ  
SLAVONIJI I BARANJI ..... 593

*Anetta Waśniewska; Katarzyna Skrzyszewska; Ivona Vrdoljak Raguž:*  
A COMPARATIVE ANALYSIS OF CHOSEN DETERMINANTS OF THE CROATIAN  
AND POLISH HUMAN CAPITAL IN THE CONTEXT OF THE STRATEGY EUROPE  
2020 / KOMPARATIVNA ANALIZA ODABRANIH DETERMINANTI LJUDSKOG  
KAPITALA U REPUBLICI HRVATSKOJ I POLJSKOJ U KONTEKSTU STRATEGIJE  
EUROPA 2020 ..... 604

#### **4. Medusektorska suradnja & Partnerstva / Intersectoral cooperation & Partnerships..... 615**

*Viktória Gerdesics; Petra Putzer; Béla Orosdy:*  
THE CROATIAN COUNTRY IMAGE IN HUNGARY – HOW TOURISM-RELATED  
SMEs SHOULD EXPLOIT POTENTIALS LYING IN THE NEIGHBOURHOOD /  
IMIDŽ DRŽAVE HRVATSKE U MAĐARSKOJ – KAKO TURISTIČKA MSP-A MOGU  
ISKORISTITI POTENCIJALE U SUSJEDSTVU ..... 616

*Mirjana Jeleč Raguž; Nihada Mujić Mehičić:*  
SCIENCE-BUSINESS COLLABORATION AS A CONTRIBUTION TO THE  
DEVELOPMENT OF EASTERN CROATIA / INTERAKCIJA ZNANOSTI I  
GOSPODARSTVA U FUNKCIJI RAZVOJA ISTOČNE HRVATSKE ..... 624

*Mladen Rajko; Berislav Bolfek; Jurica Bosna:*  
PROPOSAL OF THE PUBLIC-PRIVATE PARTNERSHIP MODEL IN FUNCTION  
OF LOCAL GOVERNMENT DEVELOPMENT / PRIJEDLOG MODELA JAVNO-  
PRIVATNOG PARTNERSTVO U FUNKCIJI RAZVOJA LOKALNE SAMOUPRAVE ..... 635

#### **5. Ekologija - zaštita prirode i okoliša / Ecology & Environmental protection.... 645**

*Nada Denona Bogović; Saša Drezgić; Saša Čegar:*  
GREEN ECONOMY AS A DEVELOPMENT MODEL OF EASTERN CROATIA /  
ZELENA EKONOMIJA KAO RAZVOJNI MODEL ISTOČNE HRVATSKE ..... 646

*Dario Maradin; Ljerka Cerović; Bojana Olgić Draženović:*  
WILLINGNESS TO PAY FOR “GREEN” ELECTRICITY / SPREMNOST NA  
PLAĆANJE “ZELENE” ELEKTRIČNE ENERGIJE ..... 655

**Mane Medić; Danijel Čorak:**  
THE POSSIBILITY OF USING RENEWABLE ENERGY SOURCES IN EASTERN CROATIA WITH AN EMPHASIS ON SOLAR ENERGY AND WATER ENERGY /  
MOGUĆNOSTI KORIŠTENJA OBNOVLJIVIH IZVORA ENERGIJE U ISTOČNOJ HRVATSKOJ S NAGLASKOM NA SOLARNE IZVORE ENERGIJE I ENERGIJU  
VODA..... 664

**Anita Peša; Jurica Bosna; Ivana Majdić:**  
ANALYSIS OF WASTE MANAGEMENT SYSTEM IN THE REPUBLIC OF CROATIA  
/ ANALIZA SUSTAVA UPRAVLJANJA OTPADOM U REPUBLICI HRVATSKOJ ..... 674

**Maristela Primorac; Mario Primorac; Zorislav Kraus:**  
TECHNO - ECONOMIC ANALYSIS OF PHOTOVOLTAIC POWER PLANTS  
APPLICATION IN EASTERN CROATIA / TEHNO - EKONOMSKA ANALIZA  
PRIMJENE FOTONAPONSKE ELEKTRANE U ISTOČNOJ HRVATSKOJ ..... 685

**Dalibor Pudić; Eraldo Banovac; Željko Požega:**  
APPLYING THE PRINCIPLES OF MANAGEMENT OF CREATIVE AND CULTURAL  
INDUSTRIES IN THE ENERGY SECTOR / PRIMJENA NAČELA MENADŽMENTA  
KREATIVNIH I KULTURNIH INDUSTRIJA U ENERGETICI..... 694

**Danijela Slipčević; Renata Petrović; Marijana Zekić Sušac:**  
SUPPORT INSTRUMENTS ON THE MARKET OF PHOTOVOLTAIC POWER  
PLANTS AS DEVELOPMENT POTENTIAL OF EASTERN CROATIA / POTPORN  
INSTRUMENTI NA TRŽIŠTU FOTONAPONSKIH ELEKTRANA KAO POTENCIJAL  
RAZVOJA ISTOČNE HRVATSKE..... 703

**Silvija Zeman; Sonja Rajić Bistrović; Ana Vovk Korže:**  
INDICATORS OF INHIBITION OF ANAEROBIC DIGESTION PROCESSES IN THE  
BIOGAS PLANT / INDIKATORI INHIBICIJE ANAEROBNIH PROCESA DIGESTIJE  
U BIOPLINSKOM POSTROJENJU..... 712

**Saša Žiković; Ivan Gržeta; Kristina Kaštelan:**  
VIABILITY OF BIOMASS-FIRED POWER PLANTS IN CROATIA / EKONOMSKA  
ODRŽIVOST ELEKTRANA NA BIOMASU U HRVATSKOJ ..... 722

**6. Društveno odgovorno poduzetništvo / Socially responsible  
entrepreneurship..... 731**

**Ljerka Cerović; Nikolina Dukić Samaržija; Lidija Prša:**  
PREVENTIVE HEALTHCARE AND ITS ECONOMIC IMPLICATIONS /  
PREVENTIVNA ZDRAVSTVENA ZAŠTITA I NJEZINE EKONOMSKE IMPLIKACIJE.... 732

**Ivana Dražić Lutilsky; Berislav Žmuk; Verica Budimir:**  
FINANCIAL PERFORMANCE OF CROATIAN PUBLIC HOSPITALS / FINANCIJSKA  
USPJEŠNOST HRVATSKIH JAVNIH BOLNICA ..... 744



<b>Mirjana Grčić Fabić; Goran Kutnjak; Helga Pavlič Skender:</b> VALORIZATION OF MANAGEMENT INNOVATIONS IN CROATIAN LOCAL GOVERNMENT / VALORIZIRANJE MENADŽERSKIH INOVACIJA U HRVATSKOJ LOKALNOJ SAMOUPRAVI.....	757
<b>Goran Kutnjak; Mirjana Grčić Fabić; Dejan Miljenović:</b> CORRUPTION IN CROATIAN SOCIETY AND ENTREPRENEURSHIP / KORUPCIJA U HRVATSKOM DRUŠTVU I PODUZETNIŠTVU .....	768
<b>Julia Perić; Davorka Vidović:</b> THE ROLE OF SOCIAL ACTORS IN THE DEVELOPMENT OF SOCIAL ENTREPRENEURSHIP / ULOGA DRUŠTVENIH AKTERA NA RAZVOJ DRUŠTVENOG PODUZETNIŠTVA .....	778
<b>Kristina Petljak; Ivana Štulec; Željka Gorički:</b> INSIGHTS INTO BEHAVIOUR AND PREFERENCES OF YOUNG PARENTS AS BUYERS OF ORGANIC PRODUCTS FOR BABIES / PONAŠANJE I PREFERENCIJE MLADIH RODITELJA KAO KUPACA EKOLOŠKIH PROIZVODA ZA BEBE.....	788
<b>Toni Popović; Renata Relja; Tea Gutović:</b> SOCIAL ENTREPRENEURSHIP AS (IN)VISIBLE WORK AND BUSINESS / SOCIJALNO PODUZETNIŠTVO KAO (NE)VIDLJIVI OBLIK RADA I POSLOVANJA.....	799
<b>Petra Putzer; Zsolt Bedő:</b> CSR - A NEW MARKETING TOOL FOR THE MULTINATIONAL AND BIG COMPANIES OR OPPORTUNITY FOR SOCIAL ENTREPRENEURS? / DOP – NOVO MARKETINŠKO SREDSTVO MULTINACIONALNIH I VELIKIH TVRTKI ILI MOGUĆNOST DRUŠTVENIM PODUZETNICIMA? .....	816
<b>Milan Stanić; Andreja Katolik Kovačević; Ivona Blažević:</b> CORPORATE SOCIAL RESPONSIBILITY ON THE EXAMPLE OF SELECTED COMPANIES / DRUŠTVENO ODGOVORNO POSLOVANJE NA PRIMJERU ODABRANIH PODUZEĆA .....	826
<b>Umihana Umihanić; Mirela Omerović:</b> “THE SHARING ECONOMY” – CRITICAL EXAMINATION OF INNOVATIVE BUSINESS MODELS ENABLED BY INFORMATION TECHNOLOGIES / “EKONOMIJA DIJELJENJA” – KRITIČKI OSVRT NA INOVATIVNE POSLOVNE MODELE POTPOMOGNUTE INFORMACIONIM TEHNOLOGIJAMA .....	833
<b>Maja Vretenar Cobović; Mirko Cobović:</b> SUSTAINABILITY OF PENSION INSURANCE SYSTEM IN REPUBLIC OF CROATIA / ODRŽIVOST SUSTAVA MIROVINSKOG OSIGURANJA U REPUBLICI HRVATSKOJ .....	840

<i>Katarina Žager; Sanja Sever Mališ; Ana Novak:</i> ACCOUNTANTS' VIEWS REGARDING THE EFFECTIVENESS OF FRAUD PREVENTION CONTROLS / PERCEPCIJA RAČUNOVOĐA O UČINKOVITOSTI MJERA ZA SPRJEČAVANJE PRIJEVARA .....	849
---	-----

**7. Značaj civilnog društva za razvoj regije / Significance of civil society for  
development of the region ..... 859**

<i>Vesna Vašiček; Martina Dragija; Tatjana Medved:</i> THE IMPORTANCE OF DONATIONS IN FINANCING OF NONPROFIT ORGANIZATIONS IN CROATIA / ZNAČAJ DONACIJA U FINANCIRANJU NEPROFITNIH ORGANIZACIJA .....	860
--	-----

**8. Regionalni razvoj-izazovi i prilike/Regional development–challenges and  
opportunities..... 871**

<i>Mato Bartoluci; Zvezdana Hendija; Mateja Petračić:</i> MANAGING SUSTAINABLE RURAL TOURISM DEVELOPMENT IN EASTERN CROATIA / UPRAVLJANJE ODRŽIVIM RAZVOJEM RURALNOG TURIZMA U ISTOČNOJ HRVATSKOJ.....	872
---	-----

<i>Dražen Čučić; Jasenka Rici, Mirta Bijuković Maršić:</i> CULTURAL TOURISM OF SLAVONIA AND BARANJA 365 / KULTRUNI TURIZAM SLAVONIJE I BARANJE 365 .....	885
--	-----

<i>Anamarija Delić; Lidija Filakov:</i> WHY NOT TO USE THE SERVICE OF BUSINESS ADVISERS? SOME EVIDENCE FROM CROATIA / ZAŠTO NE KORISTIMO USLUGE POSLOVNIH SAVJETNIKA? PRIMJER HRVATSKE.....	891
--	-----

<i>Nikolina Gazilj; Antun Marinac; Tena Emanović:</i> LEGAL BASIS OF REGIONAL DEVELOPMENT OF EASTERN CROATIA FROM EUROPEAN AND CROATIAN PERSPECTIVE AND THE QUESTION OF ITS EFFECTIVENESS / PRAVNA OSNOVA REGIONALNOG RAZVOJA ISTOČNE HRVATSKE U EUROPSKOJ I HRVATSKOJ PERSPEKTIVI I PITANJE NJENE DJELOTVORNOSTI.....	901
---	-----

<i>Milan Ivanović; Franjo Ambroš:</i> THE ECONOMIC IMPACTS OF BROADBAND ACCESS INVESTMENT IN CROATIA / EKONOMSKI UČINCI INVESTIRANJA ŠIROKOPOJASNOG PRISTUPA U REPUBLICI HRVATSKOJ .....	911
---	-----

<b>Aleksandra Krajnović; Ivica Zdrilić; Milan Puvača:</b> COMPARATIVE ANALYSIS OF LARGE SLAVONIAN COMPANIES' COMPETITIVENESS IN RELATION TO THE REST OF CROATIA AND REGION / KOMPARATIVNA ANALIZA KONKURENTNOSTI VELIKIH SLAVONSKIH PODUZEĆA U ODNOSU NA OSTATAK HRVATSKE I REGIJU.....	922
<b>Biljana Lončarić:</b> MARKETING PROGRAM OF THE CLUSTER „SLAVONIAN BASKET“- NEW CHALLENGES / MARKETING PROGRAM TURISTIČKOG KLASTERA „SLAVONSKA KOŠARICA“ -NOVI IZAZOVI.....	931
<b>Joanna Miklińska; Magdalena Klopott:</b> SPECIAL ECONOMIC ZONES AS AN INSTRUMENT OF REGIONAL DEVELOPMENT SUPPORT – EXPERIENCES FROM POLAND / POSEBNE GOSPODARSKE ZONE KAO INSTRUMENT POTPORE ZA REGIONALNI RAZVOJ – ISKUSTVA POLJSKE.....	943
<b>Kornelija Pavić; Marijana Blažić; Mateja Petračić:</b> IMPROVING THE PRODUCTION OF SMALL CHESSEMAKERS IN THE KARLOVAC COUNTY / UNAPREĐENJE PROIZVODNJE MALIH PROIZVOĐAČA SIRA U KARLOVAČKOJ ŽUPANIJI.....	952
<b>Tunjica Petrašević; Dunja Duić:</b> REPRESENTATION OF THE REGIONS IN THE DECISION-MAKING PROCESS IN THE EU / ZASTUPLJENOST REGIJA U PROCESU DONOŠENJA ODLUKA U EUROPSKOJ UNIJI.....	961
<b>Damir Piplica; Ivo Šperanda:</b> UNEMPLOYMENT AND INVESTMENTS IN EASTERN CROATIA IN THE CONTEXT OF DIFFERENT IDEOLOGICAL FRAMES OF CROATIAN GOVERNMENTS / NEZAPOSLENOST I INVESTICIJE U ISTOČNOJ HRVATSKOJ U KONTEKSTU RAZLIČITOG IDEOLOŠKOG OKVIRA HRVATSKIH VLADA.....	972
<b>Katarzyna Skrzyszewska; Tihomir Luković; Zrinka Marušić:</b> NATIONAL STRATEGIC DOCUMENTS FOR DEVELOPMENT BY 2020 AS THE DEVELOPMENT FACTORS IN EASTERN CROATIA: CASE STUDY OF RIVER CRUISING / NACIONALNI STRATEŠKI DOKUMENTI RAZVOJA DO 2020 KAO ČINITELJI RAZVOJA ISTOČNE HRVATSKE, CASE STUDY RIJEČNI CRUISING.....	982
<b>Azra Suljić; Franjo Ambroš; Vladimir Drašković:</b> INFRASTRUCTURE IN A SPATIAL PLANNING REQUIREMENT FOR REALIZATION “SLAVONIAN NETWORK” / INFRASTRUKTURA U PROSTORNOM PLANIRANJU PRETPOSTAVKA ZA REALIZACIJU “SLAVONSKE MREŽE” .....	991

<i>Dejan Tubić; Božidar Jaković; Rikard Bakan:</i> CULTURAL TOURISM: THE BACKBONE OF THE UPCOMING TOURISM DEVELOPMENT IN EASTERN CROATIA / KULTURNI TURIZAM: OKOSNICA BUDUĆEG TURISTIČKOG RAZVOJA U ISTOČNOJ HRVATSKOJ.....	1003
--	------

## **9. Financijske institucije / Financial institutions..... 1013**

<i>Anto Bajo; Marko Primorac; Petar Sopek:</i> NET FISCAL POSITION OF REGIONS IN CROATIA / NETO FISKALNA POZICIJA REGIJA U HRVATSKOJ.....	1014
---	------

<i>Mladena Bedeković; Dominik Suk; Željka Kadlec:</i> ACCEPTANCE BITCOIN AS DIGITAL CURRENCY IN CROATIA / PRIHVAĆENOST BITCOINA KAO DIGITALNE VALUTE U REPUBLICI HRVATSKOJ.....	1033
---	------

<i>Dina Liović; Dražen Novaković:</i> THE POSSIBILITIES OF CURRENCY RISK MANAGEMENT / MOGUĆNOSTI UPRAVLJANJA VALUTNIM RIZIKOM.....	1042
--	------

<i>Helena Miličević Lubar; Katica Križanović; Anamarija Delić:</i> CROWDFUNDING – MODEL FOR FINANCING OF DEVELOPMENT PROJECTS IN EASTERN CROATIA / CROWDFUNDING – MODEL ZA FINANCIRANJE RAZVOJNIH PROJEKATA ISTOČNE HRVATSKE .....	1051
---	------

<i>Bojana Olgic Draženović; Dario Maradin; Vesna Buterin:</i> TAX FRAMEWORK OF THE CROATIAN FINANCIAL SYSTEM / POREZNI OKVIR HRVATSKOG FINANCIJSKOG SUSTAVA.....	1060
--	------

<i>Hrvoje Perčević; Mirjana Hladika; Marina Mićin:</i> THE INTERDEPENDENCE BETWEEN MARKET SHARE PRICE AND EPS OF CLOSED-ENDED INVESTMENT FUNDS IN CROATIA / MEĐUOVISNOST TRŽIŠNE CIJENE DIONICE I ZARADA PO DIONICI ZATVORENIH INVESTICIJSKIH FONDOVA U REPUBLICI HRVATSKOJ .....	1069
---	------

<i>Amela Perić; Nedžad Polić; Emira Kozarević:</i> APPLICATION OF DATA SCIENCE IN FINANCIAL AND OTHER INDUSTRIES / PRIMJENA ZNANOSTI PODATAKA U FINANCIJSKOM I DRUGIM SEKTORIMA .....	1078
---	------

## **10. Umjesto zaključka / In Closing..... 1091**

<i>Mašek Tonković, Anka:</i> UMJESTO ZAKLJUČKA / IN CLOSING.....	1092
---	------

## **11. Prilozi / Appendix..... 1097**

<i>Zahvala sponzorima / Gratitude to sponsors .....</i>	1096
---	------

## Predgovor

Peti međunarodni znanstveni simpozij „GOSPODARSTVO ISTOČNE HRVATSKE – vizija i razvoj organizira se u vrijeme najvećih očekivanja o gospodarskom rastu, zapošljavanju stanovnika i zaustavljanje odlaska mladih i školovanih ljudi u zemlje ostvarenog visokog bruto društvenog proizvoda. Očekujemo sudionike iz cijelog Svijeta da kroz primjere dobre prakse u svojim radovima daju svoj doprinos vrijednosti ovog Simpozija.

U istočnoj Hrvatskoj još uvijek se traže rješenja kako pokrenuti gospodarski rast i kako ostvariti proizvodnju koja će biti konkurentna na domaćem i stranom tržištu. Investitori, domaći i strani, još uvijek se ne odlučuju na ulaganje, posebno u prostore koji su već godinama (od Domovinskog rata – razrušene prerađivačke industrije i uništene poljoprivrede) zapušteni.

Ovim Simpozijem organizatori očekuju od sudionika da daju kroz svoju viziju i maštu u radovima prijedloge kako obnoviti gospodarstvo i pokrenuti razvoj. S obzirom da smo podunavska regija, a tu su Drava, Sava, Kopački rit i ostali parkovi prirode, arheološka nalazišta, dvorci i utvrde uz uređene vinske ceste, kontinentalni turizam bi trebao biti više zastupljen i povezan u sadržaje sa cjelovitom ponudom kako bi trajao cijele godine. U dosadašnjim radovima bilo je dobrih prijedloga, a sada očekujemo nove.

Sveučilište J. J. Strossmayer ove godine promoviralo je prema Bolonji 3.698<sup>1</sup> studenata, dok je od 1977.- 2015 godine 883 (od toga 229 medicinskog, 188 ekonomskog, 172 poljoprivrednog smjera)<sup>1</sup> steklo titulu doktora znanosti. Svi oni imaju potencijal uključiti se u proizvodne pogone, pokrenuti proizvodnju, a neki od njih dati nove ideje i vizije, te biti lideri. Njihove nove kreacije i prijedloge mogu promijeniti postojeće stanje. “Ne možemo riješiti probleme primjenjujući isti način razmišljanja koji smo koristili kada smo ih stvorili” rekao je Albert Einstein.

Interes nam je da u ovom 5. Simpoziju dobijemo što više novih prijedloga vizije za razvoj, novi zakonski okvir koji će stimulativnim mjerama motivirati investitore i zaposliti stanovništvo ne samo istočne Hrvatske, već i cijele RH. Ako samo i jedan rad bude uočen investitorima i primijenjen za ulaganje, ovaj Simpozij opravdati će svoje postojanje.

Prof. dr. sc. Anka Mašek Tonković



---

<sup>1</sup> Pregled promoviranih doktora znanosti prema godinama na Sveučilištu J.J. Strossmayera u Osijeku od 1977 – 2015. god., <sup>1</sup> Broj dipl. studenata u Ak. Godini 2014/2015.

## Foreword

The fifth international scientific symposium “Economy of Eastern Croatia - Vision and Development” is being organized in time of great expectations for economic development, employment and stopping the trend of young and educated people going to countries with high gross domestic product. We expect participants from all over the world to contribute to the value of this Symposium with their examples of good practice. In Eastern Croatia, solutions are still sought for initiating economic growth and achieving production that will be competitive in domestic and foreign markets. Investors, both domestic and foreign, still refrain themselves from investing, especially in areas which have been derelict for years (ever since the Homeland war, with destroyed processing industry and agriculture).

Organizers of the Symposium expect the participants to use their vision and imagination in their papers and provide propositions how to renew economy and initiate development. Since we are a Danube region, and there are Drava, Sava, Kopački rit and other nature parks, archaeological sites, castles and fortifications, and organized wine roads nearby, continental tourism should be more represented and connected into tourist content with a complete yearlong offer. There have been good propositions in current papers, and now we expect new ones.

The University of J. J. Strossmayer has promoted 3698<sup>ii</sup> students in accordance to the Bologna process this year, while 883 persons acquired a Ph. D. title between 1977 and 2015 (out of which 229 in medicine, 188 in economy and 172 in agriculture).<sup>2</sup> All of them have a potential to get involved into production facilities and initiate the production, and some of them can provide new ideas and visions and become leaders. Their new creations and propositions could change the existing situation. “We can’t solve problems by using the same kind of thinking we used when we created them,” said Albert Einstein.

It is our interest within this 5<sup>th</sup> Symposium to get as many new proposals as possible of development visions, and new legal framework which would stimulate and motivate investors and increase employment not only in Eastern Croatia, but also in the whole Croatia. If merely one paper is noticed by investors and investment achieved, the Symposium will justify its existence.

Anka Mašek Tonković, PhD.



---

<sup>2</sup> Overview of promoted Doctors of Philosophy per years at the University of J. J. Strossmayer in Osijek from 1977 to 2015.,<sup>2</sup> Number of graduated students in Academic year 2014/2015.



## Tematska područja / Topics

1. Povijesna naslijeđa u razvoju istočne Hrvatske / Historical heritage in a function of the development of the eastern Croatia
2. Novi trendovi u razvoju gospodarstva/ New trends in economic development
3. Ljudski kapital u funkciji društveno-ekonomskog razvoja regije / Human capital in a function of the socio-economic development of the region
4. Međusektorska suradnja & Partnerstva / Intersectoral cooperation & Partnerships
5. Ekologija zaštita prirode i okoliša / Ecology & Environmental Protection
6. Društveno odgovorno poduzetništvo / Social responsible entrepreneurship
7. Značaj civilnog društva za razvoj regije / Significance of civil society for development of the region
8. Regionalni razvoj izazovi i prilike / Regional development challenges and opportunities
9. Financijske institucije / Financial institutions





**Povijesna naslijeđa  
u razvoju istočne  
Hrvatske**

**Historical heritage  
in a function of the  
development of the eastern  
Croatia**

**Vjekoslav Galzina, Assistant Professor, Ph.D**

University of Josip Juraj Strossmayer in Osijek, Faculty of Education  
Cara Hadrijana 10, 31000 Osijek  
Gundulićeva 20, 35000 Slavonski Brod  
Phone: +385 35 49 2640 Fax: +385 31 32 1899  
E-mail address: vgalzina@foozos.hr

**Damir Matanović, Associate Professor, Ph.D.**

University of Josip Juraj Strossmayer in Osijek, Faculty of Education  
Cara Hadrijana 10, 31000 Osijek  
Gundulićeva 20, 35000 Slavonski Brod  
Phone: +385 35 49 2640 Fax: +385 31 32 1899  
E-mail address: dmatanovic@foozos.hr

**Emina Berbić Kolar, Assistant Professor, Ph.D.**

University of Josip Juraj Strossmayer in Osijek, Faculty of Education  
Cara Hadrijana 10, 31000 Osijek  
Gundulićeva 20, 35000 Slavonski Brod  
Phone: +385 35 49 2640 Fax: +385 31 32 1899  
E-mail address: eberbic@foozos.hr

**OPPORTUNITIES FOR SUSTAINABLE SAFEGUARDING OF THE  
INDUSTRIAL HERITAGE – ĐURO ĐAKOVIĆ INDUSTRY SLAVONSKI  
BROD**

**PRILIKE ZA ODRŽIVO OČUVANJE INDUSTRIJSKE BAŠTINE –  
INDUSTRIJA ĐURO ĐAKOVIĆ SLAVONSKI BROD**

***ABSTRACT***

*This paper discusses the possibility of a sustainable safeguarding of industrial heritage on case of the Đuro Đaković metal industry from Slavonski Brod in the context of potential economic activation. The values of the industrial heritage of the metal giant from Slavonski Brod, founded on February 17, 1921 under the name First Southern Slave Wagon, Machine and Bridge Works Ltd. Brod n/S, have potential but are exposed to a number of factors that affect its endangerment and slow but immanent disappearance. The concept of industrial heritage includes artefacts of human labour and ingenuity that in our history have the same significance as religious or other artefacts that has so far been paid much more attention. In addition, it is not only applied to the period of the industrial revolution until today, but it exists in all the phases of the development of human civilization. Council of the European Union declared 2015 the year of the European industrial and technical heritage (European Industrial and Technical Heritage Year 2015), based on the resolution adopted in March 2013. The industrial heritage cannot be seen only as a subject of economic activity, but it became a part of the scientific and professional research and again, as amended, subject to new and different economic activities.*

*The issue of sustainable conservation of industrial heritage is complex, and as the biggest obstacles, we see an unfavourable economic situation that discourages firms to invest funds in this form of investment, lack of recognition of industrial heritage as an opportunity, dispersion of material and general lack of organization and lack of concern especially in eastern Croatia. Industrial heritage is more seriously discussed only in the last thirty years or so in the world, and in Croatia just for the*

*last fifteen years and covers small number of sites or industries while Eastern Croatia is in this perspective also least developed region. Activation of these resources could encourage new economic activities to raise awareness of the importance of industrial heritage and contribute to the tourist offer of selected number of sites. The crucial goal is to formulate an economically reasonable model for sustainable conservation of the industrial heritage of the Eastern Croatian metal industry on the example of Đuro Đaković industry from Slavonski Brod.*

**Key words:** *industrial heritage, sustainable safeguarding, revalorization, Đuro Đaković industry, Slavonski Brod*

## SAŽETAK

*U radu se razmatra mogućnost održivog očuvanja industrijske baštine industrije Đuro Đaković iz Slavanskog Broda u kontekstu potencijalne gospodarske aktivacije. Vrijednosti industrijske baštine metalnog giganta iz Slavanskog Broda osnovanog 17. veljače 1921. godine pod nazivom Prva Jugoslavenska tvornica vagona, strojeva i mostova d.d. Brod na Savi imaju potencijala, ali izložene su nizu čimbenika koji utječu na njezino ugrožavanje i nestajanje. Pojam industrijske baštine obuhvaća artefakte ljudskog rada i dovjetljivosti koji u našoj povijesti imaju jednaku važnost kao i religijski ili drugi artefakti kojima je do sada poklanjano više pažnje, a ne odnose se samo na period od industrijske revolucije do danas već postoje u svim fazama razvoja ljudske civilizacije. Vijeće Europske unije proglasilo je 2015. godinom Europske industrijske i tehničke baštine (European Industrial and Technical Heritage Year 2015) i to na temelju rezolucije usvojene u ožujku 2013. Industrijsku baštinu ne možemo promatrati isključivo kao predmet gospodarske djelatnosti, nego ona postaje i dijelom znanstvenih i stručnih istraživanja te ponovno, u izmijenjenom obliku, predmet nama novih i drugačijih gospodarskih aktivnosti.*

*Problematika održivog očuvanja industrijske baštine je složena, a kao najveće prepreke vidimo nepovoljnu gospodarsku situaciju koja odvraća gospodarske subjekte na ulaganje sredstava u ovaj oblik investicije, neprepoznavanje industrijske baštine kao prilike, raspršenost građe te općenito slaba organiziranost i nebriga posebice u istočnoj Hrvatskoj. Industrijska baština je ozbiljnije tematizirana tek zadnjih tridesetak godina u svijetu, a u Republici Hrvatskoj zadnjih petnaestak godina te pokriva vrlo malo lokaliteta i objekata dok je istočna Hrvatska i u ovom pogledu najzaostajala regija. Aktivacija ovakvih resursa bi mogla potaknuti nove gospodarske aktivnosti, podići svijest o važnosti industrijske baštine te doprinijeti turističkoj ponudi pojedinih lokaliteta. Konačni cilj je osmisliti ekonomski opravdane modele održivog očuvanja industrijske baštine istočne Hrvatske na primjeru metalske industrije Đuro Đaković u Slavanskom Brodu.*

**Ključne riječi:** *industrijska baština, održivo očuvanje, revalorizacija, industrija Đuro Đaković, Slavonski Brod*

### 1. Introduction

The early development of Đuro Đaković industry Slavonski Brod must be reference to the then newly formed country and the reasons and circumstances of this industrial entity creation in the interwar period (after the First World War). As the newly formed Kingdom of Serbs, Croats and Slovenes (after the year 1918) was new collection of heterogeneous elements which as a result broken up the continuity of the political and economic life of all those regions that have been in an economic and political unit of the Austro-Hungarian monarchy a complete new system had to deal with the challenge of new positioning and goals for which it was necessary to form the appropriate preconditions. One of the major countrywide problems was the railway system which was due to the aforementioned consisted of essentially different previously uneven features. According to (Jelinović, 1968) and (Krnić, 1971) the main features of the then railway network was that it over-all consisted of five significantly different networks that were, at the time, created with specific purposes, objectives and exploitation goals. What was supposed to change was, among other

elements, that there was vast variety of vehicle and wagons which is more complicated and more expensive in maintenance, renewal and ultimately exploitation. These problems were well noted by the private investors and start with the formation and construction of the First Southern slave wagon, machine and bridge works Ltd., Brod na Savi (according to (Krnić, 1971) in French: *Primiere Societe Anonyme Yougoslave de fabrication de wagons; machines et ponts*; in German: *Erste südslavische Waggon – Maschinen und Brückenbau A.G.*; in Hungarian: *Első Delstáv Waggon – Gep-es Hidgyar R.T.*) in 1921 as a direct precursor what we today mainly recognise as the Đuro Đaković Holding d.d., Slavonski Brod. In this paper term Đuro Đaković industry Slavonski Brod refers not only to today's Đuro Đaković Holding d.d. Slavonski Brod but also to other companies that were previously extracted from the parent company by means of privatization started in the 1990s what could be interesting subject of analysis from economical and/or legal point of view in future.

Selected position of new industry was not random but logical – Slavonski Brod is located in triangle between (Zagreb-Beograd-Sarajevo), at the half-way between Zagreb and Beograd and had railway bridge to the Sarajevo and had geostrategic position on the waterway on the river Sava. At that time the centres of Zagreb, Osijek and Belgrade had a sufficient base of qualified workforce, and Slavonia and the surrounding regions had, at that time, almost inexhaustible source of unskilled labour force made up of mostly agrarians and wage earners for whom this was also an opportunity for steady earnings and the possibility of acquiring valuable job qualifications. We must not forget the lucrative profits that were present in this business belonged to private investors of which the largest initial shareholders were (Čavar, M. at al., 2011): *Prva hrvatska štedionica d.d., Zagreb; Slavonija d.d. za šumsku industriju, Zagreb* (part of which was then, among others, *Slavonija d.d. za industriju drva, Brod n/S*), *Slavonsko trgovačko društvo ugljena Kaufmann i drugovi, Brod n/S; Fabrik für Maschinen und eisenbahnausrüstung A.G., Kistarac-Budapest; Jugoslavenska banka d.d., Osijek* and later joined with many other larger and smaller shareholders who recognized the potential of this type of industry. During the 95 years of this industries history the name itself was changed not less than eight times. Not only the name was changed during that time – several different states, political and economic systems, and two devastating wars (Second World War – target of heavy allied bombardments and latest Homeland War where the workers and the company itself have been strategic objective of remote assaults from the neighbouring country). All the changes but one thing didn't change – continuity and the toughness of the metal industry in Slavonski Brod.

In contemporary references term industrial heritage proclaim mostly the physical remains of the history of industry and technology, such as industrial and mining sites, as well as power and transportation infrastructure (Agaliotou, 2015; Edwards, 1996; Xie, 2006; Romeo at al., 2015; Merciu at al., 2014), also not seldom in connection with museums and historical places associated to industrial heritage and in that context scientific and professional study is called industrial archaeology (Douet, 2012). The industrial heritage of a site, location, and region is an aspect of its cultural heritage and as such should be analysed, studied, evaluated and exploited if appropriate. The international organization dedicated to the study and preservation of industrial heritage as such is The International Committee for the Conservation of the Industrial Heritage, TICCIH (<http://ticcih.org/>)

## **2. Sustainable safeguarding of industrial heritage**

### **2.1. Industrial heritage**

As it is stated in preamble of the Dublin principles as there are adopted by the 17th ICOMOS General Assembly on 28 November 2011 Around the World (ICOMOS–TICCIH, 2011), that a great diversity of sites, structures, complexes, cities and settlements, areas, landscapes and routes exist and it is by all means witness of the human industrial activities. Furthermore, this type of heritage is somewhere still more than alive and it is active process that gives us continuousness while elsewhere only offers historical evidence of the former technologies and activities which are no more. Although, when we talk about industrial heritage usually speak of the tangible industrial heritage

linked to industrial technology and processes, architecture and urban sites but in same time we must not forget the intangible aspect that encompasses the skills, knowledge, memory and everyday social life who lives or has lived around these locations. Because of that the preamble therefore provides new and broad definition: “The ... consists of sites, structures, complexes, areas and landscapes as well as the related machinery, objects or documents that provide evidence of past or ongoing industrial processes of production, the extraction of raw materials, their transformation into goods, and the related ... infrastructures. Industrial heritage reflects the profound connection between the cultural and natural environment, as industrial processes – ... – depend on natural sources of raw materials, energy and transportation networks to produce and distribute products to broader markets. It includes both material assets – immovable and movable –, and intangible dimensions such as technical know-how, the organisation of work and workers, and the complex social and cultural legacy that shaped the life of communities and brought major organizational changes to entire societies and the world in general.”

The recommended main steps for successful preservation of industrial heritage are:

- Documenting and understanding of industrial heritage structures, sites, areas and landscapes and their values
- Ensuring effective protection and conservation of the industrial heritage structures, sites, areas and landscapes
- Conserving and maintaining the industrial heritage structures, sites, areas and landscapes
- Presenting and communicating the heritage dimensions and values of industrial structures, sites, areas and landscapes to raise public and corporate awareness, and support training and research

This last step is an opportunity for the sustainable preservation of industrial heritage which could create preconditions and possible reevaluation of the existing situation and the shift to a different consideration of such content. They are no longer just a subject of industrial business activity but can become a tourist attractive that will bring added value and potentially provide sustainable over time.

## **2.2. Industrial heritage tourism**

One of possibilities of renewed life of industrial sites is best seen in examples of good practice as seen in European Route of Industrial Heritage (ERIH), the tourism information network of industrial heritage in Europe (<http://www.erih.net/>) which connects subjects from disused production plants to industrial landscape parks and industrial and technology museums. This network uses anchor points for tour starts for different regional routes because every region has its own speciality and main focus and also has specialised theme routes with predefined themes based on specialised industries. Croatia in general has done little in this direction, with just few sporadic more or less unsuccessful examples (because of the failure to recognize the importance and potential of industrial heritage or the lack of a stable framework with achievable goals) but successful experiences from other EU countries could and should be our guidelines but with our one specificities and unique industrial historical development not present in rest of the Europe or the world in general. In present moment of time we can't expect that financial impulse for start of these and similar activities will come from local government or dead or dying industries itself but financing of this type of projects should be arranged from EU funds. This could be accomplished by significant and systematic inclusion of industrial heritage preservation projects in strategic local and national long-term strategy (starting with classification like in (Claver, 2013)) which should be presented to higher levels of administration of the European Union and included in localised EU strategic documents.

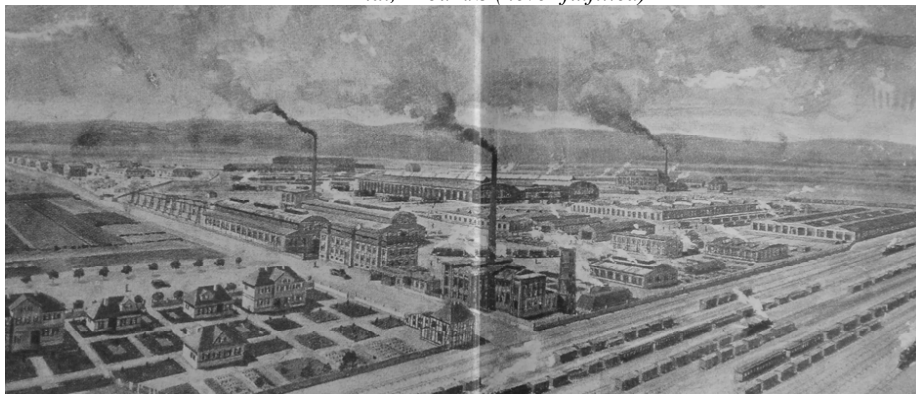
## **3. Sustainable safeguarding of industrial heritage of Đuro Đaković industry Slavonki Brod**

### **3.1. Past and Present**

To be able to rethink and use unique sites we have focus should not be only on conversion of space for new usage (as in projects of pure cultural industry) but more in sense of added value to present

and still alive industry in goal of preventive preservation of what is left of current industry and stoppage of further deterioration and disappearance. *Figure 1.* shows what creators of First Southern slave wagon, machine and bridge works Ltd. had in mind (but were not able to get to it) and what we have now after 95 years in Đuro Đaković industries complex Slavonski Brod in *Figure 2.*

**Figure 1.** 1921 design concept for project of First Southern slave wagon, machine and bridge works Ltd., Brod n/S (never fulfilled)



Source: Authors

**Figure 2.** Current picture of Đuro Đaković industry complex, Slavonski Brod



Source: Authors

### 3.2. Opportunities for sustainable safeguarding

In order to address the problem it is necessary to follow the steps proposed in the previous chapter and work on understanding of industrial heritage site and area within landscape and their values and documentation of all relevant data using all available technologies (systematic digitization of all forms of tangible and intangible resources before they disappear or are transformed into something else).

Since this is still alive and active industrial facilities and partly inactive it is necessary to take into account the specificities and the technical and architectural characteristics and applicable regulations and standards to meet the standard of maintenance of the environment and parallel application of relevant risk reduction strategies, and use good practices of compatibility of requirements of cultural and energy sustainability (Romeo at al., 2015).

In order to preserve heritage in a sustainable way is the best option, if possible, to achieve the original application, the following options are alternative and adaptive applications. This requires adaptations and specialist knowledge in case of any physical intervention process should be reversible - changes must be well documented, return to the previous known state should be very rarely, while dismantling and moving only in cases of significant life, social or very important economic reasons. Where possible, document and intangible heritage that accompanies certain activities in terms of recording stories of workers and unite it with content in an appropriate way in the integration phase. At this point we would like to emphasize the importance of the educational aspect of preserving industrial heritage and value to the scientific research (industrial archaeology and similar fields), technical (education) and as a potentially general public touristic attractive site with add-on value to local region and later as point of interest for European industrial heritage route. Industrial heritage should be seen as a valuable source of learning and gives further insight into what we were, what we are now and where we are going in the future. It gives a special look at aspects of the interaction of the time past and changing cultures, political and value systems to local Slavonski Brod and its surroundings and shows ingenuity of scientists, engineers, craftsmen and workers. It is therefore essential that both public (local and national) and corporate consciousness exists within industry complex Đuro Đaković, Slavonski Brod and thorough understanding of the importance of industrial heritage are necessary for the future. There are more possible existing solutions and good practices (Agaliotou, 2015; Edwards, 1996; Xie, 2006; Romeo at al., 2015; Merciu at al., 2014): from visits to the active and passive sites of industrial heritage, with modern additions in creation of virtual and augmented reality with supporting intangible content, detailed digitization is required in order to preserve as much material for the professional community and as a matter of educating generations to come.

#### **4. Discussion**

In recognition of value of industrial heritage Council of the European Union declared 2015 the year of the European industrial and technical heritage (European Industrial and Technical Heritage Year 2015), based on the resolution adopted in March 2013. The industrial heritage cannot be seen only as a subject of industrial activity, but it grow into a part of the scientific and professional research and again, as amended, subject of new and different economic activities. Of which the production or product should we move in the direction of preserving them? Is it: locomotives, trams, wagons, tanks, bridges, boilers, nuclear program ... number of this industry products successfully produced over time was large (still is?) and if we do not move soon, it will not even be important. The issue of sustainable conservation of industrial heritage is complex, and as the biggest obstacles, we see an unfavourable economic situation that discourages firms to invest funds in this form of investment, lack of recognition of industrial heritage as an opportunity, dispersion of material and general lack of organization and lack of concern especially in Eastern Croatia. Industrial heritage is more seriously discussed only in the last thirty years or so in the world generally, with exception of United Kingdom (Falconer, 2006) and some other developed European countries, in Croatia just for the last fifteen years and covers small number of sites or industries while Eastern Croatia is in this perspective is practically nonexistent. Activation of these resources could encourage new economic activities to raise awareness of the importance of industrial heritage and contribute to the tourist offer of selected number of sites. The crucial goal of this work is to formulate sustainable conservation of the industrial heritage of the Eastern Croatian metal industry, specify on example of Đuro Đaković industry Slavonski Brod as it deserves valorisation as it is important element of identity of people of Slavonski Brod and region.

## REFERENCES

- Agaliotou, C. (2015): *Reutilization of industrial buildings and sites in Greece can act as a lever for the development of special interest/alternative tourism*, Procedia – Social and Behavioral Sciences, Vol. 175, No. 2, pp. 291-298
- Douet, J., ed. (2012): *Industrial Heritage Re-tooled: The TICCIH guide to Industrial Heritage Conservation*, Carnegie Publishing Ltd, ISBN 978-1-85936-218-1
- Claver, J., Sebastian, M.A. (2013): *Basis for the classification and study of immovable properties of the Spanish industrial heritage*, Procedia Engineering, Vol. 63, pp. 506-513
- Ćavar, M., Topčić, Z. et al., ed. (2011): *INDUSTRIJA Đuro Đaković: 90 godina strojogradnje u Slavenskom Brodu*, Posavska Hrvatska, Đuro Đaković Holding d.d., Slavonski Brod
- Edwards, A.J., Coit, J.C.L. (1996): *Mines and quarries: Industrial Heritage Tourism*, Annals of Tourism Research, Vol. 23, No. 2, pp. 341-363
- Falconer, K. (2006): *The industrial heritage in Britain – the first fifty years*, La revue pour l'histoire du CNRS, 14, <http://histoire-cnrs.revues.org/1778> (accessed 15 February 2016)
- ICOMOS-TICCIH (2011): *Principles for the Conservation of Industrial Heritage Sites, Structures, Areas and Landscapes, The Dublin Principles*, <http://ticcih.org/about/about-ticcih/dublin-principles/> (accessed 15 February 2016)
- Jelinović, Z. (1968): *Ekonomika saobraćaja*, Informator, Zagreb, 1968, str. 198
- Krnić, Z., ed. (1971): *Đuro Đaković Industrija šinskih vozila, industrijskih i energetskeg postrojenja i čeličnih konstrukcija*, Slavonski Brod
- Merciu, F.-C. et al. (2014): *Conversion of industrial heritage as a vector of cultural regeneration*, Procedia – Social and Behavioral Sciences, Vol. 122, pp. 162-166
- Romeo, E. et al. (2015): *Industrial heritage: reflections on the use compatibility of cultural sustainability and energy efficiency*, Energy Procedia, Vol. 78, pp. 1305-1310
- Xie, P.F. (2006): *Developing industry heritage tourism: reflections on the use compatibility of cultural sustainability and energy efficiency*, Tourism Management, Vol. 27, pp. 1321-13130



**Miro Gardaš PhD.**  
Faculty of Law in Osijek  
e-mail: mgardas@pravos.hr  
Phone: 091-224-55-47

## **LEGAL ACTIONS AGAINST CRAFTSMEN IN OSIJEK AFTER THE END OF WORLD WAR II**

### **PRAVNE MJERE PROTIV OBRITNIKA U OSIJEKU NAKON ZAVRŠETKA DRUGOG SVJETSKOG RATA**

#### **ABSTRACT**

*At the time of the Austro-Hungarian Empire, and in times after its dissolution as well as in the 1940s Osijek was a strong economic center. Many developed economic entities operated there which were important within their own industries.*

*Besides them there were many more craft workshops operating in Osijek whose products and services met the needs of the citizens in Osijek and its surroundings. Craftsmanship in Osijek has been developing since the late 17th century, and the first craftsmen began to work soon after the liberation of Osijek from the Turkish authorities. During the 18th and 19th century craftsmanship was rapidly developing and the products of a number of craftsmen were sold in the famous Osijek trade fair.*

*After the Second World War the newly established communist government carried out the confiscation of almost all of these craft workshops and thus drastically changing the position of craftsmen in Osijek. The excuse for such a doing was an alleged "economic cooperation with the occupier", i.e. during the Independent State of Croatia these craftsmen carried out their activities in a normal fashion and provided services to citizens and "enemy soldiers".*

*By these moves of the new government the craftsmanship in Osijek was nearly destroyed and thus the tradition of craftsmanship, which had been developing in Osijek during 18th and 19th century, came to an end.*

*The circumstances of Osijek craftsmen is going to be illustrated on the examples of several craft workshops which were confiscated after the World War II.*

**Keywords:** *crafts, confiscation, World War II, Jews*

#### **SAŽETAK**

*U vrijeme Austro-Ugarske Monarhije, a i u vremenima poslije njenoga raspada, pa sve do 40-ih godina XX. stoljeća Osijek je bio snažno gospodarsko središte. U njemu je poslovalo više razvijenih gospodarskih subjekata značajnih u svojim granama privrede.*

*Osim njih u Osijeku je poslovalo više obrtničkih radionica koje su svojim proizvodima i uslugama zadovoljavale potrebe građana Osijeka i okolice. Obrtništvo u Osijeku razvijalo se od kraja 17. stoljeća, a prvi obrtnici počinju sa radom vrlo brzo nakon slobodenja Osijeka od turske vlasti. Tijekom 18. i 19. st. obrtništvo se snažno razvija, a proizvod brojnih obrtnika prodaju se na znamenitim osječkim trgovačkim sajmovima.*

*Poslije Drugog svjetskog rata novo uspostavljena komunistička vlas tvrdi konfiskacije gotovo svih tiho brtničkih radionica i na taj način drastično mijenja položaj obrtnika u Osijeku. Izlika tome bila je navodna „gospodarska suradnja s okupatorom“ odnosno zato što su ti obrtnici za vrijeme Nezavisne Države Hrvatske normalno obavljali svoje djelatnost i pružali usluge g rađanima i „neprijateljskim vojnicima“.*

*Ovim potezima novih vlasti obrtništvo u Osijeku je gotovo uništeno i na taj način je učinjen kraj tradiciji obrtništva koje se u Osijeku razvijalo tijekom 18. i 19. stoljeća.*

*Sudbinu osječkih obrtnika pokušat ćemo pokazati na primjeru više obrtničkih radionica koje su poslije Drugog svjetskog rata konfiscirane.*

**Ključneriječi:** obrtništvo, konfiskacija, Drugi svjetski rat, Židovi

## **1. Economic situation in Osijek before the Second World War**

At the beginning of the twentieth century Osijek was a commercial and crafts center and a city with strongly developed industry and with a large number of craft workshops that had their roots back to the 18th and 19th centuries when Osijek was one of the most economically developed cities in this part of the Monarchy.

In the second half of the 18th and the 19th century Osijek was well known for its famous fairs, that were held all over the Austrian monarchy, and where people sold goods from all over the empire and the world, and which brought great financial gain to the city. The importance of these fairs laid in the proximity of the border with the Ottoman Empire, wherefrom a lot of oriental goods entered the Austrian Empire, but to where a great deal of craft and industrial goods were also exported.

Osijek was, therefore, in the first decades of the twentieth century a city with a very long tradition of trade and commerce and growing industry.

Most craft workshops and other economic entities which were operating in Osijek at that time continued with their normal operations in the World War II as well during the Independent Croatian State. Because of ideological but above all for economic reasons after World War II the communist authorities started to seize these economic entities.

## **2. Legal frameworks seizure craft workshops after World War II**

At the head of the then "Anti-Fascist Council of National Liberation of Yugoslavia" was a lawyer Dr. Ivan Ribar, who tried to put the seized property into the legal framework, so that the confiscation of assets would fall under the Law on Confiscation and Execution of Confiscation, which was passed on June 9, 1945.

For this purpose, in addition to this law, there shall be a series of regulations passed that regulate this issue, so there were still many legal regulations that enabled a wide circle of persons to be found guilty whose property would hence be seized. Article 2 of the Law on Compensation for Property Taken during the Yugoslav Communis<sup>1</sup> Rule lists 32 such regulations, while some authors list even fifty.<sup>2</sup>

This is primarily the Law on Crimes Against the People and the Country of August 25, 1945,<sup>3</sup> and the Decision on the Protection of National Honor of Croats and Serbs in Croatia of April 24, 1945.<sup>4</sup> In the first years after World War II there were many bodies in Osijek for judging people who violated the provisions of the above regulations. These were primarily District Court in Osijek, then

---

<sup>1</sup>Official Gazette No.92/1996

<sup>2</sup>Crnić, Jadranko, Kako vratiti oduzeto nacionalizacijom, konfiskacijom, agrarnom reformom [How to regain property rights deprived by nationalization, confiscation and agricultural reform], Official Gazette, Zagreb, 1991

<sup>3</sup>Official journal DFJ, No. 18/1945

<sup>4</sup>"Vjesnik"- newsletter of JNOF of Croatia, of June 28, 1945

the District People's Court in Osijek, the Military Court of Osijek Military District of Osijek, and in particular the Court for the Protection of National Honor of Croats and Serbs in Croatia for the districts of Osijek and Virovitica-Osijek.<sup>5</sup> Archives created by the work of these bodies is largely preserved in the State Archives in Osijek, and it is quite well arranged and available to researchers. It has already been said that one of the key provisions on the basis of which the confiscation was carried out was the Decision on the Protection of National Honor of Croats and Serbs in Croatia of April 24, 1945.

According to Article 2, paragraph 1, "under a crime or offense in terms of this decision was especially considered any cooperation with the occupier and his helpers. As forms of such cooperation the following shall be considered: political cooperation, propaganda, cultural, artistic, economic, administrative cooperations and other sort of cooperation with the occupier and domestic traitors." Furthermore, the same article, paragraph 7 provides that what is also considered under the crime or offense is "a voluntary economic assistance to occupiers and his assistants especially putting one's own economic enterprise in the service of the occupier, as well as the important work in the economic organization or company, which is useful to the occupying forces and the purchase of supplies on behalf of the occupiers."

The consequences of such actions are set out in Article 3 of the same Decision, which states: "The works of this decision will be punished by: a) the loss of national honor, b) forced labor, c) partial or total confiscation of property or a fine, d) exile.

Having realized the great value of the property and the importance of its confiscation and the enormous economic potential that lies in the property, already on May 9, 1945 a new communist government hastily passed the Law on Confiscation of Assets and the Execution of Confiscation.

In the article 1, the law provides a definition of confiscation: "Confiscation of property is a compulsory confiscation of the entire property for public use without compensation (complete confiscation) or a confiscation of a specific piece of the property (partial confiscation) which is a personal property or a personal stake in the joint property with other people." Article 5 of the same Act further stipulates that "confiscation implies the seizure of all assets of the convicted person, regardless of whether they are in his possession or displaced from their original place in order to thwart the confiscation. Assets that falls under confiscation cannot be transferred in the property of others either by inheritance or by any other legal basis."

The next piece of legislation that regulated the issue of confiscation of property is the Law on Crimes Against the People and the Country of August 25, 1945. In article 10 the law stipulates that "Persons who in Time of War economically collaborate with the enemy and occupier, i.e., that their industrial, commercial, transport or other companies or their qualifications are made available to the enemy for purposes of production, that they themselves produce items that strengthen the economic strength and the potential of war enemies, that their collaboration with the enemy has particularly severe forms of exploitation and oppression of workers with the help of the occupying authorities shall be deprived of liberty with hard labor up to 10 years and confiscation of property."

On a few examples of Osijek craft workshops and small factories we are going to illustrate in which way were these laws applied immediately after the World War II, and in which way were these provisions of the legislation implemented in reality.

### 3. Examples

#### 1. "ANALIT":

The judgment of the District People's Court in Osijek, No. Kz-242/46, K.M., the owner of a workshop for production of combs, buttons and hobnails was sentenced to 1 year of deprivation of

---

<sup>5</sup>Arhivski fondovi i zbirke u SFRJ – Hrvatska [Archive funds and collections in FNRJ-Croatia], Belgrade 1984, section on historical archive in Osijek, p.176

liberty with hard labor, the fine of 6,000 dinars, and the confiscation of craft workshops "Analit" as he was maintaining the production and in such a way collaborated with the enemy.<sup>6</sup>

## 2. BRICKYARD E. PLAZZERIANO - OSIJEK:

The owner of the brickyard was E.P. who had operated the brick factory until 1943, when he died. His inheritance since then was managed by his son in law dr. Z.B. in the name of the successors, his daughters F. and M. As the manager of the brickyard dr. Z.B. leased the brickyard to Germans M.P., P.H., Š.F. and Š.F. who managed the brickyard since May 1944. It was found that just at that time the brickyard delivered their products to the enemy, thus for this reason indictment was filed against dr. Z.B. According to the judgment of the District People's Court No. Kz-280/45, dr. Z.B. was sentenced to 14 months of deprivation of liberty with hard labor, on probation for one year. Also by the verdict the entire brickyard was confiscated.<sup>7</sup>

## 3. THE BRICKYARD DLOUHY:

According to the judgment of the District People's Court in Osijek No. Kz-266/45, F.D., the owner and lifelong beneficiary of the brickyard, was sentenced to 6 months of deprivation of liberty and confiscation of the brickyard with all the belonging devices and land, as he leased the brickyard to the accused K.V. and received the rent, not taking into account whether the products of the brickyard served the occupier and his helpers.<sup>8</sup>

## 4. "DUBRAVKA" THE KNITWEAR FACTORY IN OSIJEK:

The knitwear factory "Dubravka" was owned by Jews B.R. and K.R., who were in 1942 shipped to Germany since when they have been missing. That same year the company was nationalized and sold by the NDH to S.M. and M.M.

According to the judgment of the District People's Court in Osijek No. Kz-235/45, for the economic cooperation with the enemy B.R., K.R. and M.M., the owners and managers of the knitwear factory "Dubravka" were the first ones to be sentenced to confiscation of all their property. For this act as well as for the act from the judgement of the Military Court No. 2840/45, he was sentenced to deprivation of liberty with hard labor for a period of 20 years, the loss of civil and political rights for 10 years and the confiscation of all property, and the persecution from the city of Osijek for a period of 5 years.

The verdict includes confiscation of all the property of the knitwear factory "Dubravka" in Osijek. Against the accused K.R. and B.R. the cases proceeded in their absence, and they were sent a public invitation for the hearing.<sup>9</sup>

## 5. ELECTRICAL MILL GAŠTAJGER AND ŠMIT:

Before the war, the mill co-owners were T.G. and Ž.M. Ž.M. was a Jew and he was sent to a camp, where in 1942 he committed suicide. Its share in the mill was nationalized and redeemed by the Germans J.Š. and M.Š.

With the decision of the commission for confiscation in the city NO-Osijek of September 18, 1945, number 686/45, T.G.'s and his family's share was confiscated and their property was nationalized. Šmit's share was not nationalized and it is placed under the management of state mills.<sup>10</sup>

---

<sup>6</sup>DAO, fund "District people's court Osijek" (hereinafter: OJT), box 47, file No. 1/50

<sup>7</sup>DAO, fund "OJT - Osijek", file No. Kz-266/45

<sup>8</sup>DAO, fund "OJT", box 47, file 1/50

<sup>9</sup>ibidem

<sup>10</sup>ibidem

#### 6. "FARMACIJA" –CARDBOARD FACTORY IN OSIJEK:

Company "Farmacija" was founded in 1925 by Jews A.N. and D.R. In 1941 the company was nationalized and in 1942 NDH sold it to P.K. for 1,092.105 Kuna. Being the Jews the former owners A.N. and D.R. were taken to Germany without return in 1942.

Charges were brought against the previous owners for economic cooperation with the enemy, and through the public announcement the absentee owners were invited to make themselves known within three days.

According to the judgment of the District People's Court in Osijek No. Kz-236/45, A.N., D.R., and P.K. as owners and managers of the company "Farmacija", were accused of economic cooperation with the occupier. The first two A.N., and D.R. were sentenced to confiscation of all property, and the third one, P.K. was sentenced to confiscation of all property, and in connection with the case of the Military Court in Osijek number 305/45, to a sentence of deprivation of liberty for 15 years with hard labor, the loss of civil and political rights for 10 years and the expulsion from the city Osijek for a period of 5 years. The verdict also included confiscation of all assets of the cardboard company "Farmacija".<sup>11</sup>

#### 7. FRANJO PIRC –GREASE AND SOOT FACTORY:

The company was registered in the business register as a singular company owned by domestic German F.P., but it was destroyed in the bombing, and the owner subsequently fled to Germany. Procedures for confiscation is ongoing.<sup>12</sup>

#### 8. "ŠIMA PAVLOVIĆ"- CROATIAN PRINTING DEPARTMENT:

According to the judgment of the Court to protect national honor of Croats and Serbs in Croatia for counties Osijek and Virovitica, No Kz-79/45, the owner of Croatian printing institute "Šima Pavlović" was found guilty for materially aiding the enemy organization and for economic cooperation with the enemy, so in addition to other penalties he was also sentenced to confiscation of all property.<sup>13</sup>

#### 9. KLEIN ALEKSANDAR, KNITTING AND YARN FACTORY:

During the war both A.K. and his son A.K. Jr. declared themselves Germans. The elder died, and as a German A.K. Jr. was in the concentration camp.

The company was nationalized by a City NO No. 10849, dated July 12, 1945.<sup>14</sup>

#### 10. GRETA KOLAR –BRICKYARD IN OSIJEK:

The brickyard has a capacity of 3-4 million pieces of bricks or tiles per year and is one of the largest in Osijek.

It was found that G.K. the owner of the brickyard in Osijek was guilty for producing bricks and tiles during the occupation and also selling them to enemy's armed forces and a hostile government and Local Civil institutions, and thus sold about 3.8 million pieces of tiles and bricks during the war and occupation.

---

<sup>11</sup>ibidem

<sup>12</sup>ibidem

<sup>13</sup>DAO, fund OJT, box 47, file No. 1/50

<sup>14</sup>ibidem, report of November 15, 1945

According to the judgment of the District People's Court in Osijek, No. Kz-250/45, G.K. was sentenced to deprivation of liberty with hard labor for a period of 6 months. He was also sentenced to confiscation of the entire brick factory with all plants, factory buildings, residential buildings for workers, business facilities and the brickyard land. Confiscation excludes residential building where the convict now lives with her family. Convicted A.K. appealed, and the appeal was rejected by the Croatian Supreme Court, No. K-701/45.<sup>15</sup>

#### 11. RUDOLF MERK I J. BOŽIĆ –FURNITURE FACTORY:

Before the war, the factory was owned by a Jew dr. H.Š. who was in 1942 taken to Auschwitz, where he remained until the end of the war. By the decision of the District People's Court in Osijek, R-732/45 the factory was returned to the owner H.Š.<sup>16</sup>

According to the judgment of the District People's Court in Osijek, No. Kz-242/45 R.M., the owner of the furniture factory “Božić” was sentenced to deprivation of freedom with hard labor for a period of three years for the economic cooperation with the enemy. The sentence also includes the loss of civil and political rights for a period of three years as well as the confiscation of all assets of the furniture company “Božić”.<sup>17</sup>

#### 12. THE FIRST OSIJEK ROLLING MILL JSC:

The company was confiscated according to the judgment of the Court to protect national honor of Croats and Serbs in Croatia for the districts of Osijek - Virovitica, No Kz-155/45.<sup>18</sup>

#### 13. “JOSIP POVIŠL” –THE FACORY OF FURNITURE PLYWOOD AND TOOLS:

The owner of the factory was R.P., according to the judgement of the Court to protect national honor of Croats and Serbs in Croatia, No. Kz-41/45, he was sentenced to confiscation of the entire property for the economic cooperation with the enemy.

Confiscation of the property was executed by the court decision of the District People's Court in Osijek, No. R-399/46.<sup>19</sup>

#### 14. “PRPIĆ I SZILLE” - CONSTRUCTION COMPANY IN OSIJEK:

According to the judgment of the District People's Court in Osijek, No. K-518/47, S.Z. and J.P., the owners of the company “Zsille and Prpić - Osijek” were sentenced to deprivation of freedom for the period of six months because they were in the period between 1941 and 1945 cooperating with the enemy. The sentence includes confiscation of the entire company “Prpić and Zsille” in Osijek<sup>20</sup>

#### 15. “REX” –FACTORY FOR STOVES AND IRON FURNITURE:

Before World War II the company was owned by a Jew D.V., who was in 1942 shipped to the concentration camp, from where he did not return. The company was nationalized and in 1943 it was purchased from NDH by J.P.

---

<sup>15</sup>PAO, fund “OJT - Osijek”, file No. Kz-250/45

<sup>16</sup>ibidem, report of November 15, 1945

<sup>17</sup>This confiscation, which was rendered to a Jew who managed to survive and return from Auschwitz upon which he was convicted for economic cooperation with Germans, might be the most absurd case among all mentioned cases.

<sup>18</sup>ibidem, report of November 15, 1945

<sup>19</sup>ibidem, report of December 3, 1946

<sup>20</sup>PAO, fund “OJT- Osijek”, file No. K-518/47

Having established economic cooperation with the enemy, the indictment was filed against J.P. and the former owner D.V., who would be called by the public announcement.<sup>21</sup> Because of economic cooperation with the enemy as well as for the act from the verdict of the Military Court in Osijek No 91/45 according to the judgment of the District People's Court in Osijek, No. Kz-243/45, as a supervisory commissioner and later administrative commissioner, and finally, from 1943, the owner of the furniture factory "Rex" in Osijek J.P. was sentenced to a deprivation of freedom with hard labor for a period of 8 years and 5 months as well as to confiscation of the entire property and the loss of political and civil rights for a period of 5 years. Also he was sentenced to confiscation of all assets of the furniture company "Rex" in Osijek.<sup>22</sup>

#### 16. "RIS" –THE KNITWEAR FACTORY:

Before World War II the company was owned by Jews K.R. and O.R. After the establishment of NDH the company was nationalized. In order to prove economic cooperation with the enemy charges were brought against the owners K.R. and O.R.<sup>23</sup>

Because of economic cooperation with the enemy according to the judgment of the District People's Court in Osijek, No. Kz-234/45, as a co-owner of the company "Ris" K.R. was sentenced to deprivation of freedom with hard labour for a period of six months on probation for one year. At the same time he was sentenced to confiscation of the entire asset of the knitwear company "Ris" in Osijek as well as the wholesale haberdashery of short and woven goods in Osijek.<sup>24</sup> Real estates, where the factories were located, were confiscated by court decision of the District People's Court in Osijek, No. R-1739/46 and nationalized by FPRY.<sup>25</sup>

#### 17. RANK VILI –KNITTING FACTORY:

The company was owned by the domestic German, who retired with the German army and whose whereabouts is not known.

The company was merged with "Dubravka" knitwear factory and as such is also under the state administration. For the company's business during the war, there are no data. The company "Dubravka" was confiscated according to the judgment of the District People's Court in Osijek, No. Kz-235/45.<sup>26</sup>

#### 18. RUDOLF KAISER –FURNITURE FACTORY:

Being owned by local Germans the factory was nationalized by the decision of the City Commission for the confiscation of November 12, 1945.<sup>27</sup>

#### 19. SANATORIUM "BATORY - WEISSMANN":

The co-owners of the sanatorium in Osijek were Dr. J.B. and Dr. K.W. The first is charged for criminal acts of political cooperation with the enemy, and others for assisting the enemy.

---

<sup>21</sup>DAO, fund OJT, box No. 47, file 1/50, report of November 15, 1945

<sup>22</sup>ibidem, report of November 30, 1945

<sup>23</sup>ibidem, report of November 15, 1945

<sup>24</sup>Ibidem, report of November 30, 1945

<sup>25</sup>ibidem, report of December 3, 1946

<sup>26</sup>ibidem

<sup>27</sup>ibidem, report of November 30, 1945. In this report on confiscation there is no number of the decision included under which the confiscation was carried out. However, the file could probably be found in PAO, by examining the reference records of the archive fund of "GNO-Osijek".

Because of political cooperation with the enemy according to the judgment of the District People's Court in Osijek, No. Kz-277/45, dr. J.B. was sentenced to force labor without deprivation of freedom for a period of one year. Among other things, he was sentenced because he bought off half of sanatoria, which was confiscated from a Jew K.W. by NDH. The second accused dr. K.W. was acquitted because as a Jew he was persecuted by the occupiers. That he was a doctor in the camp Jaska contains no output of the crime because there in the camp were only Serbian and Jewish children.

The sentence also included confiscation of the whole sanatorium.<sup>28</sup>

#### 20. TEXTILE DYE FACTORY A. UNGAR:

The investigations showed that the Osijek silk weaving factory through the entire war used its activities for their own purposes to color their products. This would indirectly involve this company in economic cooperation with the enemy through Osijek silk weaving company, which had for such a cooperation already been confiscated. However, given the small scale of operations, and the personal circumstances that speak in favor of the owner A.U., who was immediately after the occupation exiled and who eventually joined the Red Army, prosecution in this matter was not initiated.<sup>29</sup>

The company is under sequestration as there is an ongoing proceeding against the owner A.U. to combat illicit trafficking and speculation as well as economic sabotage.

Real estates where the workshop was located were nationalized by FNRJ by the decision of the City Commission for confiscation, number 2930/45, and were implemented by the Decision No. Z-2199/45.<sup>30</sup>

#### 21. "VIKTORIJA" –BOARD FACTORY IN OSIJEK:

Before the war, the factory was owned by V.L. in the proportion of 60%, and A.L. in the proportion of 40%. A.L. was a Jew and his wife V.L. Austrian by birth, but declared herself a Croat. During the war NDH nationalized A.L.'s part, but his wife purchased it in 1942 and became the sole owner of the company.

Because of economic cooperation with the enemy charges were brought against V.L.<sup>31</sup>

According to the judgment of the District People's Court in Osijek, No Kz-231/45, the accused were sentenced as follows: V.L., and AL, against whom the indictment on the main trial had been extended to economic cooperation with the enemy, were sentenced to deprivation of freedom with hard labor for a period of one year, on probation for two years, and as a special punishment they were sentenced to confiscation of all assets of the board company "Viktoria".<sup>32</sup>

#### 22. "MIOKOVIĆ, DRNDARSKI I DRUGOVI" –NATIONAL STORE IN OSIJEK:

The storekeeper was the late Đ.M. The defendants were his successors M.M. and B.M.

Because of the economic cooperation with the enemy according to the judgment of the District People's Court in Osijek, No. Kz 253/45, M.M. and B.M. were each sentenced to one year of deprivation of freedom with hard labour, on probation for two years. The sentence also includes confiscation of the entire property of the trading company "Narodnatrgovina Mirković i drugovi" in

---

<sup>28</sup> ibidem

<sup>29</sup> ibidem, report of November 30, 1945

<sup>30</sup> ibidem, report of December 3, 1946

<sup>31</sup> ibidem, report of November 15, 1945

<sup>32</sup> ibidem, report of November 30, 1945



Osijek including all the assets and goods of the company no matter where they were located. They were also sentenced to confiscation of the building in TrgSlobode 10 in Osijek.<sup>33</sup>

### 23. DRYCLEANING AND DYING SERVICES KOVAČEC DRAGUTIN:

According to the scope of its business the above mentioned shop is a craft workshop and as such it is not entered in the commercial register.

It was determined that the above workshop collaborated with the enemy by providing laundering services to Ustasha military units. For this reason the charges were brought against the owner of the shop. The president of the city committee of the National Front J.M. intervened in this case holding that the case would have politically unfavorable echoes in the public, because the accused owner of the shop provided shelter and hid him and his family during the occupation. He also believed that the above described activities did not include a crime of collaboration with the occupying forces.<sup>34</sup>

Although the indictment was already filed with the court, the public prosecutor of the Osijek County withdrew the accusation, and expressed the view that cooperation with the occupier was neither in such a large scale nor directly.<sup>35</sup>

## **4. Conclusion**

The newly-formed communist government tried immediately after the Second World War to nationalize all economic entities. They started from major factories and industrial plants, to later continue seizing craft workshops and even private properties of wealthier individuals.

The reason for all these seizures was "cooperation with the occupier" or "collaboration with the enemy". Everyone fell under this broad term. If one's craft workshop or factory operated normally, performed its activity and economised, it was all collaboration with the enemy. Basically, if a trader during the Second World War continued with his business as usual, or kept producing and selling as he used to before the war, he would automatically be accused of "collaboration with the occupier".

Such insistence on cooperation with the occupier led to an agonizing situation, which would have almost been ridiculous if it had not had such tragic consequences. Under this it is primarily referred to the confiscation of property of Jews who were taken to a German concentration camps and hence never returned.

A clear example of such procedures is the confiscation of property of the knitwear and lingerie company "Mara" from Osijek, owned by H.K., D.K. and P.K. In 1942 they were taken to the concentration camp and from then on they have been missing. However, the communist authorities in Osijek accused them of collaborating with the occupiers (because their factories continued to work under the guidance of the Commissioner) and they were sentenced to the confiscation of the company. The identical situation is with the company "Farmacija" and knitwear factory from Osijek, whose owners A.N. and D.R. have also been missing having been taken to Germany in 1942 for being Jews.

Another identical example is the factory of paper goods "Mursa Mill" and its owner S.D. During World War II he remained in Osijek, where he was repeatedly arrested and released by NDH government itself. Immediately after the war the factory was returned to him by the decision of the District People's Court, and the same year (1945) according to the decision of the District People's Court D.S. was sentenced to one year of deprivation of freedom with hard labor, on probation for

---

<sup>33</sup>ibidem

<sup>34</sup>ibidem, report of November 15, 1945

<sup>35</sup>ibidem, report of November 30, 1945

one year, as well as to the confiscation of all the property. The reason is, of course, the "cooperation with the occupier".

From these, and many other examples we can see that the new government was encouraged on such ruthless seizures by ideological reasons, but primarily by a simple economic calculation. The evidence for this lies in the fact that in almost every case defendants were sentenced to a probation prison sentence (that means that the crimes for which they were accused of by the new government were not so serious), and of course the sentence included confiscation of craft workshops or factories. The economic calculations of the communist authorities are visible in the cases where the penalties were imposed to the Jews that were taken to concentration camps and killed by Ustasha and German authorities. The new communist authorities, in the plundering of their properties, did not hesitate to accuse in particular these people, who were killed in concentration camps, of collaboration with occupying forces.

From the examples of started and then suspended legal proceedings against the owners of individual craft workshops, we see that the communist authorities in Osijek after World War II were not immune to the intervention of some political powers that favored the owners of craft workshops who in some way helped during the Independent Croatian State. In these cases, normal operations during the war, as well as with all other businesses, was not considered a collaboration with the enemy, or according to their interpretation it was not to the extent that would require prosecution!

With such moves of the communist authorities in Osijek, but also in the rest of Croatia, craftsmanship was cut down at the root. Most of the well-established and developed craft workshops was confiscated and mostly annexed to larger factories that had already been nationalized. In this way, the craft workshops, as well as pre-war private companies were placed within the framework of planned economy and they lost their longstanding identity.

## REFERENCES

Crnić, Jadranko, *Kako vratiti oduzeta nacionalizacijom, konfiskacijom, agrarnom reformom* [*How to regain property rights deprived by nationalization, confiscation and agricultural reform*], Official Gazette, Zagreb, 1991

Miro Gardaš, Josip Vrbošić: „Konfiskation Von Firmen In Osijek Nach Dem Zweiten Weltkrieg [*Confiscation of companies in Osijek after the WWII*]“ Institutions of Legal History with special regard to the legal culture and history, Bratislava – Peccs, 2011

Miro Gardaš, Josip Salapić, Tunjica Petrašević: “Sudski postupci pred sudovima za zaštitu nacionalne časti s posebnim osvrtom na Sud za zaštitu nacionalne časti Hrvata i Srba u Hrvatskoj za okrug Osijek-Virovitica [*Court proceedings before the courts for protection of national honour with special attention to the Court for the protection of honour of Serbs and Croats in Croatia for Osijek-Virovitica district*]“, The study was published in a scientific monograph “Istražne radnje i pomoćna sredstva u sudskim postupcima kroz povijest [*The investigative actions and aids in court proceedings through history*]“, Osijek, 2010

Miro Gardaš, Tunjica Petrašević, Atila Čokolić: “Postupci konfiskacija gospodarskih subjekata u Osijeku poslije drugog svjetskog rata [*Confiscation procedure of economic entities in Osijek after the World War II*]“, The study was published in a scientific monograph “Istražne radnje i pomoćna sredstva u sudskim postupcima kroz povijest [*The investigative actions and aids in court proceedings through history*]“, Osijek, 2010.

Miro Gardaš: „Changes in The ownership of economic entities in Osijek during The first half of 20th century“ – „Promjene u vlasničkoj strukturi gospodarskih subjekata u Osijeku u prvoj polovini

20. Stoljeća“, Zbornik 4. Međunarodnog simpozija Gospodarstvo istočne Hrvatske – vizija i razvoj, Osijek, 2015., str. 171.

Lakatoš, Joso, *Industrija Hrvatske i Slavonije [Industry of Croatia and Slavonia]*, Zagreb 1924

Rastovčan P., *“Zadružnopravo [Cooperativeright]”*, Zagreb 1949

**Dunja Halapija Kazija, PhD.**

Institute of Pomology, Croatian Centre for Agriculture, Food and Rural Affairs  
Gorice 68 b, 10000 Zagreb  
Phone: +38514646542 Fax: +38514646543  
E-mail address: dunja.halapijakazija@hcphs.hr

**Tvrtko Jelačić, MSc.**

Institute of Pomology, Croatian Centre for Agriculture, Food and Rural Affairs  
Gorice 68 b, 10000 Zagreb  
Phone: +38514646542 Fax: +38514646543  
E-mail address: tvrtko.jelacic@hcphs.hr

**Stjepan Galović, MSc.**

Association of producers of domestic plum brandy "Slavonka"  
A. Waldingera 11, 31000 Osijek  
Phone +38531369-616 Fax: +38531369-616  
E-mail address: upds.slavonka@os.t-com.hr

**BIODIVERSITY (CONSERVATION) OF PLUMS IN SLAVONIA THROUGH  
TRADITION OF PLUM BRANDY MAKING****POVEZANOST DUGOTRAJNE TRADICIJE PEČENJA RAKIJE S  
BIOLOŠKOM RAZNOLIKOSTI ŠLJIVA U SLAVONIJI****ABSTRACT**

*Traditional plum cultivars, grown in Slavonia, represent a mixture of several species or subspecies, including: European plum (*P. domestica*L.), mirabelles (*P. insititia* var. *syriaca* L.), and damsons (*P. insititia* var. *damascena*L.).*

*First plum orchards were planted in the 3th and 4th century near the river Sava and Drava by Roman emperors. Plum brandy has been produced for 300 years and made with traditional varieties of plums. The production of plum brandy "Slavonska šljivovica" has significantly contributed to the preservation of traditional plum cultivars in Slavonia, whereas the fruits of these genotypes are used for distillation. It is believed that these traditional cultivars provide characteristic aroma and authenticity of traditional plum brandy. In Slavonia between the years of 1885 and 1890, average plum yield was 672,631 metric cents (1 m.c. = 100 kg). In 1885 production of plum brandy was 27,163 hl, and in 1890 4 453 hl.*

*This long-term production and the traditional way of plum cultivation have resulted with high genetic and morphological diversity of plums that have been grown in Slavonia.*

*In the experimental orchard of the Institute of Pomology (Croatian Centre for Agriculture, Food and Rural Affairs), located in Donja Zelina, Croatia, 18 of analysed varieties have been planted. The same are registered in the List of varieties of fruit species and five of them are going to be included in process of production of plant material e.g. buds for grafting.*

**Key words:** plum, Slavonian plum brandy, tradition, biodiversity

## SAŽETAK

Tradicionalne sorte šljiva koje se uzgajaju u Slavoniji predstavnicu tri vrste i podvrste šljiva. europska šljiva (*P. domestica* L.), mirabela (*P. insititia* var. *syriaca* L.) i brdaklija (*P. insititia* var. *damascena* L.).

Rimljani su u 3. i 4. stoljeću Podravini i Posavini podizali prve šljivike. Rakija od šljiva se proizvodi već 300 godina od tradicionalnih sorti šljiva. Proizvodnja šljivovice je doprinijela očuvanju tradicionalnih sorti u Slavoniji jer one daju rakiji prepoznatljivu aromu i autentičnost. U periodu od 1885. do 1890. godine prirod šljiva iznosio je prosječno 672 631 metričkih centi (1 m.c. = 100 kg). U 1885. godini proizvedeno je 27 163 hl, a u 1890. godini 4 453 hl šljivovice.

Ova dugotrajna proizvodnja i tradicionalni način uzgoja šljiva uvjetovale su postojanje velike genske i morfološke raznolikosti na prostoru Slavonije.

U Zavodu za voćarstvo, HCPHS, posađen je kolekcijski voćnjak sa 18 analiziranih sorti, koje su uključene na Popis sorti voćnih vrsta, te će se pet sorti uključiti u proizvodnju sadnog materijala tj. pupova za cijepljenje.

**Ključne riječi:** šljiva, Slavonska šljivovica, tradicija, biološka raznolikost

### 1. Introduction

Large part of the world's biodiversity has been in the hands of people from rural areas for many generations (Berkes et al. 1995). Traditional system management facilitated the direct selection of plants and animals and shaped biodiversity (Sauer, 1965).

In Croatia, production of brandy came from Germany in the late 17th and early 18th century. In Germany the consumption of brandy spread during the 30 - year war (1618-1648). Croatian soldiers who have participated in this war brought back home knowledge of brandy making. Production of plum brandy was of the greatest importance. Plum brandy has been produced for 300 years and with it the traditional varieties of plums (Rončević et al., 2009).

Traditional plum varieties grown in Slavonia represent landraces. Landraces are varieties which are bred and cultivated by local population on specific territory in the period longer than 50 years, on which have not been applied modern hybridization methods. They are propagated by root suckering without the use of plant protection products. These varieties are grown in gardens or extensive orchards and are perfectly adapted to local climatic conditions and cultivation methods and resistant to disease and pests. Each of these varieties has certain characteristics that differentiate them from others. These features are usually related to characteristics of fruit and periods of flowering and fruit ripening. They have descriptive names which may indicate a particular characteristic (e.g. time of ripening) or origin, such as the location of cultivation (Harlan, 1975; Jarvis et al., 2000).

Traditional plum cultivars grown in Croatia, represent a mixture of several species or subspecies, including: European plum (*P. domestica* L.), mirabelles (*P. insititia* var. *syriaca* L.), and damsons (*P. insititia* var. *damascena* L.). Great biodiversity of traditional plum varieties from Slavonia was determined after their genetic and pomological identification.

The aim of this paper is to present the influence of human work and tradition on biodiversity.

### 2. Slavonian plum brandy

For the purpose of quality preservation association "Slavonka" from Osijek has protected plum brandy under the name of "Slavonska šljivovica" (Pravilnik o priznavanju i zaštiti oznaka jakih

alkoholnih pića. NN 20/07 čl. 24). “Slavonska šljivovica” is strong alcoholic drink classified as fruit brandy. It is produced on territory of east Croatia: Slavonia, Baranja and Western Srijem from traditional plum varieties which have long cultivation tradition in Slavonia. Bistrica (*Prunus domestica* L.) is most famous among them. Other traditional varieties are: Motičanka, Trnovača, Torgulja bijela, Torgulja plava, Bijelica, Mandalenka, Pasjara, Turkinja, Brdaklija (*Prunus domestica* L.) and Pintara, Valpovka, Ceričanka, Debeljara, Bijela sitna, Bijela kasna mirisava, Ružica, Kamenjara, Bijelica jajara (*Prunus insititia* L.).

Plum brandy must be of proper clearness. Colour must be characteristic golden yellow similar to ducats which is obtained by distillate aging in oak barrels for at least 18 months. Odour must be characteristic and constant with noticeable plum aroma harmonized with aroma of oak.

Plum variety plays a significant role in quality of “Slavonska šljivovica” which is characterised by soft and harmonious taste and rich aroma with a distinctive long finish.

“Slavonska šljivovica” must meet the minimum requirements prescribed in Annex I and Annex IIEC Regulation No. 110/2008 with following parameters:

- must contain from 37.5 to 42.5 % volumetric alcohol;
- must contain at the most 1200 g methanol/hl 100 % volumetric alcohol;
- must contain at the least 200 g volatile compounds/hl 100 % volumetric alcohol;
- must contain at the most 7 g hydrocyanic acid/hl 100 % volumetric alcohol.

Slavonian plum brandy is produced from fully ripe and healthy plums of traditional plum varieties. After the selection of fruits, the remains of leaves, stems and twigs must be separated. Stones must be removed from fruits. Crushed fruits must be placed in the fermentation container. The traditional process of fermentation is carried out by epiphyte microorganisms in wooden containers for a period of three to four weeks. Distillation of fermented plums must start immediately after the completion of fermentation. The traditional process of distillation is carried out on a simple copper distillation unit with working volume usually about 150 litres, heated by an open flame, with the separation of the fractions so that the final product contains from 37.5% vol. to 42.5% vol.

Aging of brandy is carried out in Slavonian oak barrels at least for eighteen months. Traditionally, the best wood for barrels is pedunculate oak (*Quercus robur* L.) from Slavonia, known as Slavonian oak. Aging in barrels made of Slavonian oak, the distillate is oxidised and enriched by aromatic ingredients extracted from wood, and depending on the time of maturation, it develops its characteristic flavour and colour (Ministarstvo poljoprivrede, 2015).

### **3. Tradition of plum cultivation and brandy making**

First plum orchards were planted in the 3th and 4th century near the river Sava and Drava by Roman emperors. During the Middle Ages plum production continued on feudal estates and monastery grounds.

Data on fruit growing in Slavonia were written in the census of population and estates in Slavonia from the year of 1736. At that time about 300,000 plum trees, mostly around Nasice, Pozega, Vocin, Kutjevo, Brestovac and Pakrac were listed. Other fruit species were of lesser importance. During this period, plums were grown on estates. Plum brandy, which was produced on estates as well, was sold for money. Apart the estates brandy was produced by farmers. Each estate had a list of the owners of boilers which have to pay feeto estate for brandy making (Mažuran, 1993).

After abolition of serfdom in the 1848, production of brandy was carried out on rural estates. There was 12 major distilleries and 56 smaller distilleries in the middle of the 19th century. In 1850 tax on the production of alcohol and brandy was introduced.

According to the Chamber of Trade and Commerce in Osijek on the area of Požeške, Virovitica and Srijem County between the 1885 and 1890, average plum yield was 672,631 metric cents (1 m.c. = 100 kg). In the year of 1885, production of plum brandy was 27,163 hl, and in 1890 4 453 hl.

At the beginning of 20 century (1908) due to the war conditions and lack of copper, boilers were taken from the people and much higher tax on the brandy was introduced. Since then, most of the brandy production took place in the central distilleries that produced brandy in a larger areas (Rončević et al., 2009).

For the purpose of education, special schools were founded with school gardens in which fruit trees were cultivated and propagated. These had a significant role in the promotion and improvement in fruit growing. Kuralt (1888) describes the known types of plums, methods of plum drying, cooking jam and brandy making, tools for the cultivation of soil, tools for grafting and tools for cultivation of fruit trees. Ivan Radić in his book 'The benefit of plums' (1908) provides guidance for growing plums and tips for improving the drying of fruits and the production of jam and brandy. He assumes that 100 kg of plum fruit can provide 33 kg of jam, and 100 l of plum pulp which can provide 8 - 9 l of brandy.

#### **4. Identification and morphological characteristics of traditional plum varieties from Slavonia**

Bistrica is one of the most spread and the most important traditional variety in Croatia and in the region. Due to excellent quality it is used fresh and for processing (brandy and jam). There are several well-known synonyms (eg. Požegača, Hauszwetsche). Although Bistrica is pomologically described in detail, other traditional varieties of Slavonia were not. There were no reliable pomology databases or reference repositories that would enable the positive identification of the mentioned traditional plum cultivars. Consequently, the level of synonymy/homonymy among the cultivars was unknown, as was the extent to which the traditional plum germplasm in the region was preserved (genetically structured) or intermixed. Additionally, there is no available information regarding the prevailing plum species or subspecies among these cultivars. (Halapija Kazija, 2014b).

Today the most reliable and quickest method for variety identification is identification with DNA markers, most often by microsatellites. (Pejić et al., 1998).

For that purpose Institute of pomology, Croatian Centre for Agriculture, Food and Rural Affairs, in collaboration with Association of producers of domestic plum brandy "Slavonka" from Osijek, in 2005 started the project "Pomological and technological evaluation and genetic identification of indigenous genotypes of plums (*P. domestica* L. and *P. insititia* L.). Aims of this project were identification of variety genotypes, pomological characterization, phytopathological analysis and technology evaluation.

In this study 47 traditional Croatian plum genotypes from Slavonia, seven traditional Croatian genotypes from Lika, nine traditional plum accessions from Serbia and Bosnia and Herzegovina, 15 international cultivars from the experimental orchard of the Institute of Pomology (Croatian Centre for Agriculture, Food and Rural Affairs), and seven samples of cultivar 'Bistrica' from nurseries, in total 87 plum accessions were genetically analysed. The DNA was extracted using the modified CTAB method. SSR loci were analysed using a set of nine primer pairs: UDP 96 005, BPPCT 34, BPPCT 39, BPPCT 40, Pac A18, Pac A33, Pac A49, Pac B22, and Pac B35.

From 2005 to 2007, 47 traditional Croatian accessions were analysed *in situ* for 22 morphological traits (11 quantitative and 11 qualitative by using DUS descriptors). Samples of leaves and fruits of traditional plum varieties were gathered from 31 locations in Slavonia with the help of farmers and local experts.

Genetic analysis revealed 66 different genotypes, 21 duplicates, two pairs of synonyms, 30 homonyms, and 39 traditional Croatian accessions with a unique SSR profile, among the 87 total analysed plum accessions. Names of identified genotypes of the traditional accessions from

Slavonia were: Bela staroverska, Bijela kasna mirisava, Bjelica, Bjelica jajara, Bijela rana, Bijela sitna 1, Bijela sitna 2, Bijela sitna 3, Bistrica, Brdaklija, Ceričanka, Crnica, Dabinka, Debeljara 1, Debeljara 2, Glodara, Ilinjača, Kalača, Kamenjara, Komočanka, Mandalenka, Pasjara, Pintara, Ružica, Sitna bjelica, Torgulja 1, Torgulja 2, Torgulja 3, Trnovača 1, Trnovača 2 i Valpovka.

Nine primer pairs amplified 168 distinct alleles, or on average 18.7 alleles per locus. Traditional plum varieties had average 17.7 alleles per locus while international varieties had average 12.9 alleles per locus. A significant differentiation between the traditional plum cultivars and international reference cultivars, was detected through value of genetic differentiation ( $F_{ST}$ ) ( $F_{ST} = 0.022$ ;  $P < 0.0001$ ) and analyses of molecular variance (AMOVA) ( $f_{CT} = 0.054$ ;  $P < 0.05$ ). Genetic structure analysis performed by the Bayesian method enabled the classification of mirabelle, damson, and European plum genotypes (Halapija Kazija et al., 2014a).

The values for measured and derived traits were within the following ranges: fruit weight 7.33 – 42.99 g, fruit height 24.49 – 43.01 mm, fruit width 20.52 – 37.15 mm, fruit height/width ratio 1.00 – 1.41, soluble solids content 13.48 – 21.94 °Brix, fruit firmness 242.67 – 1254.7 g/cm<sup>2</sup>, stone weight 0.51 – 2.11 g, stone height 16.61 mm – 25.88 mm, stone width 5.75 – 15.21, stone thickness 5.75 – 8.14 mm and roundness index 0.38 – 0.58.

Analysed varieties had elliptic, obovate and ovate leaf shape. Fruit shape was elliptic, circular, ovate and obovate. Colour of skin was green, yellowish green, yellow, orange yellow, purplish violet, dark violet, violet blue and dark blue. Colour of flesh was green, yellowish green, yellow and orange. Stone shape in lateral view was narrow elliptic and elliptic. Stone shape in ventral view was narrow elliptic, elliptic, broad elliptic and connate. Degree of adherence of stone to flesh was non-adherent, semi-adherent and adherent. Time of ripening lasted from July till September (Halapija Kazija, 2014b).

## 5. Discussion

Above mentioned literature references represent a long tradition of plum cultivation in Slavonia. Plums have not been used and sold only as fresh fruit, but the rural population was able to sell its products, primarily brandy. In the difficult conditions of life, money obtained from the sale of brandy was used for the procurement of products and raw materials that could not be produced on the farm.

Slavonia production plum brandy is of immense importance. In the past of “Šokadija”, there were no household without a plum orchard. Good yield of plums brought the money to household: jam was made, fruits were dried for the winter, but brandy was produced at most. In the 19th century, brandy was made using pottery boilers, which parts were made of baked soil. Metal boilers came into use later by farmers (Rončević et al., 2009).

Traditional varieties are propagated by suckering. Mother plants are not used in traditional cultivation and plant material is used directly from orchards. This type of propagation used in longer period often results with the emergence of mutation, hence the development of a large number of varieties with the different ripening time, fruit shape and colour.

Higher average number of alleles per locus and significant differences of value of genetic differentiation ( $F_{ST}$ ) and analyses of molecular variance (AMOVA) between traditional and international varieties and Bayesian cluster analyses suggests that traditional Croatian plum accessions represent preserved germplasm, which was independent from international breeding programs, with exception of Bistrica. Traditional plum varieties grown in Croatia and in the region are of local importance. They are grown in specific areas, which are determined by environmental conditions and tradition. Also, great biological diversity is a result of their origin a traditional Slavonian varieties originate from the three plum species (European plums, mirabelles and damsons). Large number of homonyms (accessions with same name but different SSR profile) led to



a certain amount of confusion in the field and prompted the need for reliable inventory of traditional plum germplasm in Croatia. Descriptive names of traditional Croatian accessions such as Trnovača which means thorny, Debeljara which means heavy and Bijela sitna which means little white plum, Valpovka (from Valpovo), Cerićanka (from Cerna) etc. are based on morphological characteristics and common knowledge, therefore are not sufficient for their reliable classification. In presented study morphological differences between plums and mirabelles were determined, but damsons, which were genetically the most diverse, in both qualitative and quantitative morphological traits showed similarities with plums and mirabelles, making them the most difficult to distinguish between morphological analysis as a species.

## 6. Conclusion

Slavonia has a long tradition of primarily making brandy, followed by other products such as plum jam, dried plums and compotes. In the past, brandy and dried plums were a source of money for the local population. Although the traditional way of life changed and money is earned in other ways, custom of making brandy is retained. Slavonia is characterized by the production of specific plum brandy which is characterised by specific aroma and authenticity obtained by the traditional plum varieties. The production of brandy has preserved large number of traditional varieties, among which differences exist in terms of technology and agronomic value that should be further explored. This long-term production and the traditional way of growing plums have resulted with high genetic and morphological diversity of plums that have been grown in Slavonia.

In the experimental orchard of the Institute of Pomology (Croatian Centre for Agriculture, Food and Rural Affairs), located in Donja Zelina, Croatia, 18 of analysed varieties have been planted. They are register in the List of varieties of fruit species and five of them are going to be included in process of production of plant material e.g. buds for grafting.

## REFERENCES

Berkes F., Folke C., Gadgil M. (1995) Traditional ecological knowledge, biodiversity, resilience and sustainability. In: Biodiversity Conservation (C.A. Perrings, K.G. Mäler, C. Folke, B.O. Jansson & C.S. Holling, eds.) Kluwer Academic Publishers, Dordrecht, pp. 281-299

Halapija Kazija D., Jelačić T., Vujević P., Milinović B., Čiček D., Biško A., Pejić I., Šimon S., Žulj Mihaljević M., Pecina M., Nikolić D., Grahić J., Drkenda P., Gaši F. (2014a) Plum germplasm in Croatia and neighboring countries assessed by microsatellites and DUS descriptors, *Tree Genetics & Genomes* Vol. 10, No. 3, pp 761-778

Halapija Kazija D. (2014b) Genetička i pomološka identifikacija domaćih genotipova šljive iz Slavonije, *Agronomski fakultet, Zagreb*

Harlan J.R. (1975) *Crops and Man*, First Edition, American Society of Agronomy and Crop Science Society of America, Madison, Wisconsin

Jarvis D.I., Myer L., Klemick H., Guarino L., Smale M., Brown A.H.D., Sadiki M., Sthapit B., Hodgkin T. (2000) *A training guide for in situ conservation on-farm*, Version 1, IPGRI, Rome.

Kuralt F. (1888) *Pouka u gospodarstvu II dio*, Zagreb

Mažuran I. (1993) *Stanovništvo i vlastelinstva u Slavoniji 1736*, Osijek

Ministarstvo poljoprivrede (2015) *Tehnička dokumentacija Slavonska šljivovica*

Pejić I., Ajmone-Marsan P., Morgante M., Kozumplik V., Castiglioni P., Taramino G., Motto M. (1998) Comparative analysis of genetic similarity among maize inbred lines detected by RFLPs, RAPDs, SSRs, and AFLPs, *Theoretical and Applied Genetic* Vol. 97, pp. 1248-1255

Pravilnik o priznavanju i zaštiti oznaka jakih alkoholnih pica, NN 20/07 čl. 24

Radić I. (1908) *Korist od šljive*, Hrvatsko društvo za pučku prosvjetu, Zagreb

Rončević M., Jurković D., Galović S. (2009) *Stara slavonska šljivovica ili Slavonka: tradicija u Osijeku i Slavoniji od Austro – Ugarske do danas*, UPDŠ "Slavonka", Osijek

Sauer C.O. (1965) The morphology of landscape, In: J. Leighly (ed) *Land and life*, University of California Press, Berkeley, pp. 315-350

Uredba (EZ) br. 110/2008 Europskog parlamenta i Vijeća o definiciji, opisivanju, prezentiranju, označavanju i zaštiti zemljopisnih oznaka jakih alkoholnih pića

**Dr. sc. Milan Ivanović, dipl. oec.**

Panon – Think tank for strategic studies, Osijek

E-mail address: panon.institut@gmail.com

**Stjepan Vidaković, mag. hist.**

Panon – Think tank for strategic studies, Osijek

E-mail address: panon.institut@gmail.com

## **HISTORY OF IMPLEMENTED ENTREPRENEURIAL ACTIVITIES IN SLAVONIA AND BARANJA FROM 1969<sup>th</sup> TO 1989<sup>th</sup>**

### **POVIJEST PROVEDENIH PODUZETNIČKIH AKTIVNOSTI U SLAVONIJI I BARANJI U RAZDOBLJU OD 1969. DO 1989. GODINE**

#### **ABSTRACT**

*The paper analyzes the position of large companies in Slavonia and Baranja in the rankings the largest companies in Yugoslavia in the period from 1969 to 1989. These rankings made on the basis of the total revenues and income, number of employees and average used operating assets, and realized in the editorial office of the weekly "Ekonomika politika" (Economic Policy) Belgrade in cooperation with the SDK (Financial agency) Yugoslavia. Twelve large industrial enterprises and industrial and agricultural complexes contained in this period in the rankings the largest companies in the country. These were: Kombinat Borovo, IPK Osijek; PIK Belje, Darda; SOUR "Đuro Đaković", Slavonski Brod; PPK Županja, PIK Vinkovci, Kombinat Belišće, "Elektroslavonija" Osijek; "Saponia", Osijek; PIK "Đuro Salaj", Valpovo; PIK Đakovo and PPK Kutjevo. The paper specifically discusses the establishment and operation of IPK Osijek as a good example of the development policy of that time in the area of Slavonia region. The goal of the research is to point out the good practices of responsible business of large companies in Slavonia regarding the efficient use of tradition and human capital and natural resources in the region.*

**Keywords:** *income, industry, large companies, Slavonia and Baranja, total revenues*

#### **SAŽETAK**

*U radu se analizira pozicija velikih poduzeća s područja Slavonije i Baranje na rang listama najvećih poduzeća u Jugoslaviji - u razdoblju od 1969. do 1989. godine. Ova su rangiranja načinjena na temelju ostvarenog ukupnog prihoda i dohotka, broja zaposlenih i prosječno korištenih poslovnih sredstava, a realizirana su u redakciji poslovnog tjednika „Ekonomika politika“ (Beograd) uz suradnju sa SDK Jugoslavije. Dvanaest velikih industrijskih poduzeća i industrijsko-poljoprivrednih kombinata nalazali se u tome razdoblju na rang listi najvećih poduzeća u zemlji. To su bili: Kombinat Borovo, IPK Osijek, PIK Belje, Darda; SOUR „Đuro Đaković“, Slavonski Brod; PPK Županja, PIK Vinkovci, Kombinat Belišće, „Elektroslavonija“ Osijek; „Saponia“, Osijek; PIK „Đuro Salaj“ – Valpovo, PIK Đakovo i PPK Kutjevo. U radu se posebno razmatra osnivanje i poslovanje IPK Osijek kao dobar primjer razvojne politike toga doba na području slavonske regije. Cilj istraživanja je ukazati na dobru praksu odgovornog poslovanja velikih poduzeća u Slavoniji glede učinkovitog korištenja tradicije i ljudskog kapitala te prirodnih resursa u regiji.*

**Ključne riječi:** *dohodak, industrija, Slavonija i Baranja, velika poduzeća, ukupni prihod*

## 1. Ranking large companies in Yugoslavia

Following the example of the world's professional magazine Belgrade business weekly "Economic Policy" started in 1969 to publish a list of the biggest companies in Yugoslavia; was first published list of "Top 100" for 1968. Since 1970, ranks the 200 largest companies and in the separate one-edition EP (approximately 200 pages) and contains five ranking list of the largest companies in Yugoslavia in the following sectors: manufacturing, trade, transport, insurance and banks. For our considerations is an important first graders list - 140 largest companies in the industry; mining, construction, agriculture and forestry. The criteria for ranking were: (1) total income, (2) income plus depreciation, (3) average used assets and (4) the number of employees, based on the reports Social Accounting Service (today FINA). Although the methodology and criteria of this ranking can set specific objections - these are rankings were more than an indicative picture of the development and the power of big business systems in the country.

The first issue of the weekly "Economic Policy" (ISSN 0013-3248) goes 4.4.1952. EP is based on the proposal of Boris Kidrič, high state and party officials of the time, in an effort to find new solutions to current economic problems that may arise. EP was a kind of a public forum in which to discuss the issues of development and discussed, tested and promoted ideas and solutions of market economy. Since then the EP becomes the vanguard of reform and vocal advocate of the market economy and gains great reputation at home and abroad, especially in the west. List by their example proves the seriousness of the newsroom - first renounce state subsidies and operates in the market. At the end of the nineties, due to a conflict with the then regime, most of the editorial staff sacked; it was practically the end of "Economic Policies" that quietly went out in 2000.

### 1.1. Slavonian companies in the rankings 'Top 200'

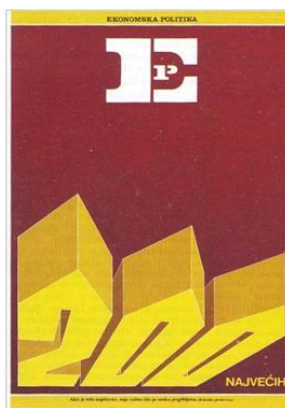
Twelve large industrial enterprises and agricultural complexes from the Slavonia and Baranja these years is contained in the ranking of 140 largest manufacturing companies in Yugoslavia; table 1;

*Table 1 Slavonian companies on the ranking list of 140 biggest companies in the industry and mining, agriculture and forestry and construction in Yugoslavia - to total revenue*

Rb	Poduzeće	Sjedište	Godina_mjesto na rang listi			
			1968.	1973.	1983.	1989.
1	Kombinat Borovo	Vukovar	10	14	16	35
2	IPK Osijek	Osijek	25	31	33	22
3	PIK Belje	Darda	30	44	57	-
4	„Đuro Đaković“	Sl. Brod	51	69	76	-
5	PPK Županja	Županja	56	135	-	-
6	PIK Vinkovci	Vinkovci	86	83	87	102
7	Kombinat Belišće	Belišće	-	-	121	-
8	„Elektroslavonija“	Osijek	-	-	-	89
9	„Saponia“	Osijek	117	101	-	104
10	PPK „Đuro Salaj“	Valpovo	-	-	121	126
11	PIK Đakovo	Đakovo	124	121	-	131
12	PPK Kutjevo	Kutjevo	-	-	-	135

*Source: 200 najvećih poduzeća u Jugoslaviji; Ekonomska politika, Beograd.; godišta 1970. - 1989.*

*Figure 1 Cover of publications "200 largest" (1983)*



*Source: 200 najvećih poduzeća u Jugoslaviji; Ekonomska politika, Beograd; godišta 1970. - 1989.*

These large companies have been the engine of economic and social development in the Slavonia and Baranja region - because many of them consisted of several industrial capacity and employed a large number of workers, and included in the production of co-operating companies and develop new facilities in less developed municipalities the region; Table 2;

This paper will briefly point out the position of large companies in the footwear industry and car tires, metal and chemical industry and paper production, and in particular will analyze industrial and agricultural complexes in bringing together agriculture and food industry.

## **2. Slavonian large enterprises in the footwear industry and tires, metal and chemical industry, energy and paper production**

In this industry group five Slavonian companies were in rankings the largest companies in Yugoslavia: Kombinat Borovo; "Đuro Đaković"; "Saponia", „Belišće“ and "Elektroslavonija". A detailed review ranking in the period from 1968<sup>th</sup> to 1988<sup>th</sup> shown in tab.2.

- **Kombinat Borovo** from Borovo (near Vukovar) more than 20 years was the largest Slavonian company that was among the 20 largest companies in Yugoslavia. Kombinat has emerged from the factory BATA - which was founded in 1931. Borovo is produced leather and rubber footwear, tires and RTG (rubber technical goods - V-belts, rubber soles, car-flooring, rubber heels, rubber plates, various rubber parts for automobiles and household goods and a variety of seals), had its drive energy with power plant and a range of ancillary production (cardboard, printing, etc ...) and has its own retailers across Yugoslavia with over 620 stores. Kombinat was the largest producer of footwear, tires and RTG in Yugoslavia (he was among the top 10 manufacturers in Europe), and had significant exports (about \$ 100 million per year). Combine during the 70s and 80s built seven new factory in Bosnia and Herzegovina and Croatia (in Slavonia). In the "Borovo" was employed over 23,000 workers. [1]

- **SOUR "Đuro Đaković"**(ĐĐ) the metal industry was created after World War II. in nationalization "Yugoslavian first factory bridges" which was founded in 1921. The development in the next 30 years at this company operated a dozen factories in Slavonski Brod - that produced a wide range - from metal structures and bridges, wagons and locomotives, steam boilers and gas tanks, industrial and power plants to the dedicated production (tanks) and combine harvester (in Županja). "ĐĐ" was at that time the largest producer Steamblow boilers in the world, produced and equipment for the oil petrochemical industry, components of the primary circuit of a nuclear power

plant. Team members conducted DD have built a series of plants for factories: sugar refinery in Yugoslavia (Virovitica and Bijeljina) and cement (Kosjerić, Beočin, Split) and in Alexandria and Homs (Egypt) as well as the thermal power plant (4x400 MW power) NEKE (Iran) A significant part of production exported. In "ĐĐ" was employed over 16,000 workers. [1]

- **Kombinat „Belišće“** founded by entrepreneurs from the family Gutmann building sawmill (1984), the construction of the factory of tannin, barrels factories and factories parquet (1889), and factories for dry distillation of wood (1900). Nationalization of companies S. H. Gutmann d.d. after World War II. „Belišće“ resumed some production, some are off, and developed new: built factory semichemical, paper and cardboard packaging, factory plastic injection machines, new power plants and a factory for the production of briquettes. Kombinat exported a significant part of production. In "Belisce" had been employed over 5,000 workers. [1]

- **Chemical Plant "Saponia"** originated from "Osijek's first soap factory"; 1894 Samuel Reinitz in Osijek founded craft workshop for the production of soap, which in 1922 was associated with the world famous company Schicht and introducing new products and increasing production; 1929 began production of abrasive cleansers („Vim“). In 1952 started production of cosmetic products, in 1953 the factory was named "Saponia" 1956 produced the first synthetic laundry detergent („Blue radion“), and in 1957 began production of liquid detergents. Among the first in Eastern Europe "Saponia" introduced regarding advertising and marketing campaigns carried out. Since 1962, the factory has its own research institute. "Saponia" employed more than 2,800 workers. [1]

- **„Elektroslavonija“**; At the end of 1926, was built and began operating power plant in Osijek in the newly established town company "Munjara and tram". At the end of 1945, established the Croatian electricity company in which the government has Slavonia and drive Osijek which has 11 regional offices. From the business was separated tramway transport, and from January 1, 1947 "Elektroslavonija" operates under that name, and carried out the electrification of the region. During the 30 years the company has grown into a respectable electric power company that is the only one in Croatia to bring together production, transmission and distribution of electricity and later the production and distribution of heat. In 1974 built the gas turbine power plant (2x25MW electric power and heat power 37,5MW), distribution of natural gas starting from 1977, and in 1985 it completed construction of Thermal Plant in Osijek (el. power and 45MW therm. capacity 139MW). At that time company has drive ancillary activities which are taking place in the design, installation and maintenance as well as certain manufacturing equipment for the distribution and transmission network and gasification and heating. In "Elektroslavonija" were employed over 2,500 workers. [1]

**Table 2** Large companies in the wood, metal and chemical industries of Slavonia and Baranja in the list of largest companies in Yugoslavia

Year	Kombinat BOROVO	„DURO ĐAKOVIĆ“ Sl. Brod	„SAPONIA“ Osijek	Kombinat BELIŠĆE	„ELEKTRO-SLAVONIJA“ Osijek
1968	10	51	117	-	-
1969	10	49	96	-	-
1970	15	49	97	-	-
1971	11	42	: 99	-	-
1972	14	56	105	-	111
1973	14	53	101	-	-
1974	15	49	101		
1975	15	53	111	-	-
1976	15	82	103	-	-
1977	16	72	102	-	-
1978	17	63	123	-	-
1979	17	58	-	-	-
1980	18	69	-		-
1981	17	71	-	120	
1982	19	67	-	138	-

Year	Kombinat BOROVO Borovo	„ĐURO ĐAKOVIĆ“ Sl. Brod	„SAPONIA“ Osijek	Kombinat BELIŠĆE Belišće	„ELEKTRO- SLAVONIJA“ Osijek
1983	16	76	-	-	-
1984	10	96	-	136	122
1985	13	79	-	122	-
1986	14	80	-	121	-
1987	18	87	-	113	139
1988	34	88	-	95	137
1989	35		104	-	89

Source: 200 najvećih poduzeća u Jugoslaviji; *Ekonomska politika*, Beograd.; godišta 1970. - 1989.

## 2.1. Research and development departments in large Slavonian companies

Very good business and technological achievements and development of large companies in Slavonia results are applications of scientific research and development work in these companies. Chemical plant "Saponia " and SOUR „Đuro Đakovic" in its composition had their institutes. In other companies, there were development services that in which conducted research activities and develop new products. Such services 1970/80-ies were: Kombinat Borovo = 1975 g. - 54 employees; IPK Osijek = Poljoslužba 1975. - 61 (of which 2 Dr and 2 MSc and 35 dipl. ing.); PIK "Belje" = 1984 g. - 4 Dr and 22 MSc; Belišće = Development service, 1975.g - 35; OLT Osijek = Development and Investment, 1975. - 60; "Slavonian Forest" Vinkovci = Central Development department, 1975 - 35; "Elektroslavonija" Osijek = Development Department, 1975. - 11 employees. [7]

## 3. Slavonian industrial-agricultural conglomerate

In the agriculture and food industry operated 12 industrial-agricultural companies, and seven of them were represented in the rankings the largest companies in Yugoslavia: IPK Osijek, PIK Belje, PPK Županja, PIK Vinkovci, PIK „Đuro Salaj“- Valpovo, PIK Đakovo and PPK Kutjevo A detailed review ranking in the period from 1968<sup>th</sup> to 1988<sup>th</sup> shown in Table 3.

The situation in agriculture of Yugoslavia at the end of the 50s of the 20<sup>th</sup> century - as well as in the area of Slavonia and Baranja region - characterized by an insufficient supply of food and insufficient use of natural and social resources. The result of this fragmentation of the social economy, their lack of organization, underdeveloped agricultural technology and core yields per hectare and production per head of livestock. agricultural organizations were not sufficiently trained nor organized for the appearance on the market, and the arable land was not fully prepared for high yields. At the time they were made agro and water regulation, and often a function was not the main canal network. Investments in agriculture were not enough, not enough agricultural services nor experts in the production. All this has limited the development and increase of crop production, a similar situation was in livestock. Food industry - for those reasons - could not answer the growing needs of the domestic market and could not use their technical capacity due to lack of basic agricultural raw materials. All this has given rise to reflections on the need to substantially different organization of production and business to comply with market needs. This paper will show the basic stages and results of the establishment and development of IPK Osijek - who was best placed Slavonian combine the rankings largest companies of Yugoslavia.

**Table 3** Agro-industrial company in the field of Slavonia and Baranja in the list of largest companies in Yugoslavia 1968<sup>th</sup> to 1989<sup>th</sup>

Godina	IPK Osijek	PIK Belje	PIK Đakovo	PIK Vinkovci	PPK Županja	PPK Valpovo	PPK Kutjevo
1968	25	30	124	86	57	-	-
1969	18	23	120	86	61	-	-
1970	20	35	-	73	-	-	-

Godina	IPK Osijek	PIK Belje	PIK Đakovo	PIK Vinkovci	PPK Županja	PPK Valpovo	PPK Kutjevo
1971	20	50	-	76	133	-	-
1972	23	41	-	71	122	-	-
1973	31	44	121	83	135	-	-
1974	27	42	124	82	-	-	-
1975	33	57	-	109	-	-	-
1976	42	57	-	109	-	-	-
1977	39	54	-	124	-	-	-
1978	39	57	-	127	-	-	-
1979	39	57	-	127	-	-	-
1980	39	56	-	121	-	-	-
1981	38	51	-	101	-	-	-
1982	37	49	-	92	-	-	-
1983	33	57	-	87	-	121	-
1984	33	56	-	107	-	-	-
1985	35	61	-	135	-	-	-
1986	37	82	-	-	-	-	-
1987	35	83	-	-	-	-	-
1988	37	79	-	-	-	-	-
1989	22	-	131	102	-	126	135

Source: 200 najvećih poduzeća u Jugoslaviji; Ekonomska politika, Beograd.; godišta 1970. - 1989.

### 3.1. The establishment and development of IPK Osijek

The concept of the foundation of IPK Osijek proceeded from: (1) integration of agricultural production and food processing industry, (2) concentration of the means of production, and (3) gathering of professional staff in the area of Osijek and the surrounding area to create a modern business organization with the application of scientific advances, increased productivity operation and efficiency of operations, and in order to ensure raw materials for better utilization of the total capacity of the local food and, ultimately, to satisfy the market needs.

IPK Osijek was established by merging four companies: Factory of sugar and sweets - Osijek, factory milk powder - Osijek, Osijek and Agricultural combine (d) agro-industrial conglomerate "Orlovnjak-Rudine" - Antunovac. These four companies formed the core of the next process of association in IPK Osijek. The processes of joining other agricultural and industrial plants and businesses were dynamic and continued for several years; can be divided into six stages. [3]

- The first phase from 1960 to 1962 - making core Kombinat merger of major industrial and agricultural enterprises.
- The second stage (1963<sup>rd</sup> to 1964<sup>th</sup>) in which the independent economics, agricultural cooperatives and farms annexed core Combine, created in the first step of integration.
- Third stage (1968<sup>th</sup> to 1971<sup>st</sup>) in which the independent agro-industrial complexes neighboring municipalities - Donji Miholjac, Našice and Podravska Slatina and "Croatia", Osijek (company for processing and sale of grain) are joining in Kombinat.
- The fourth stage (1972<sup>nd</sup> -1975<sup>th</sup>) The integration of tertiary activities in which the IPK joined the company in the field of trade and catering: OTP Osijek, „Turist“ Osijek, „Vesna“ Osijek, „Društvena prehrana“ (Social diet) Osijek and „Uzor“ Osijek.
- The fifth stage (1978<sup>th</sup> to 1983<sup>rd</sup>) in which the IPK joined „Pivoivara i vinogorje“ Osijek, „Oranica“ Osijek (company for processing and sale of seeds), Agricultural Cooperative Šodolovci and „Žitar“ Ernestinovo.
- The sixth phase (1984) in which the IPK Osijek join: trading company „NAMA“ Osijek and „Sloboda“ (factory wafers and bread) Osijek.



So IPK Osijek grown into a large business system with horizontal, vertical and territorial components which are combined: (a) agriculture (primary activities), (b) food industry (secondary activities), (c) trade and catering (tertiary) and (d) science and informatics (quaternary activities). In addition to a very intensive process of association in IPK Osijek, there are certain processes and disintegration; namely, individual integrated business entities have determined that there is no further economic justification for joint operations or, in turn, due to the installation of new, more efficient organization of production and business. Thus:

- Osijek slaughterhouse and refrigerator Slavonia Osijek, the agreement between IPK Osijek and PIK Belje, aside from the IPK Osijek January 1964 and became part of the drive flesh-conglomerate PIK Belje;
- „Đakovčanka“, plant for the production and processing of agricultural products, Đakovo (composed Frigisa Osijek) has stopped working October 1964 as economically unjustified production;
- IPK Osijek and PIK Belje mutual agreement established on June 1969 the combined transport operation in which the IPK Osijek handed over part of their transport means;
- Industry boiler Tuzla allocated from the IPK on July 1971;
- Steam bakery star from Derventa disintegrated to December 1971;
- Hemp-spinning mill and flax Vladislavci allocated to Marth 1973 and became part of the furniture factory Mobil Osijek;
- Training center IPK Osijek (who made up the Centre for Vocational Education Workers in Agriculture and Agricultural School with practical training Osijek) became an independent organization and of December 1976 it has been operating as a high school open;
- „Crvena zvijezda“, a plant for the manufacture, repair and service, Našice disintegrated to September 1979;
- Drive Frigis from Podravska Slatina disintegrated in May 1982 and joined with Tobacco from Podravska Slatina. A little later (in September 1983) Workers' referendum is accepted Agreement (re) joining the IPK Osijek with a labor organization;
- Drive for housing management in IPK (founded 1965) Comes the December 1972. the system of IPK Osijek and continues to work within the Housing Company of the municipality of Osijek;
- Drive tertiary activities (established 1968) was disbanded June 1972. The establishment of this facility, which employed about 400 workers, had a goal to be additional labor-intensive industries open employment opportunities for redundant workers who originated the introduction of modern techniques (machinery and high-power operation) in agricultural production;
- YAC Osijek (Yugoslav-American Corn Production System, established 1974) ceased operations on December 1977;
- After the establishment of IPK Osijek gradually ceased to operate several small production facilities: Spiritans in Seles, Kolodvar, Bare and Miholjac, hemp-spinning mill in Seles, Brickyard Osijek and Oil Mill Podravska Slatina.

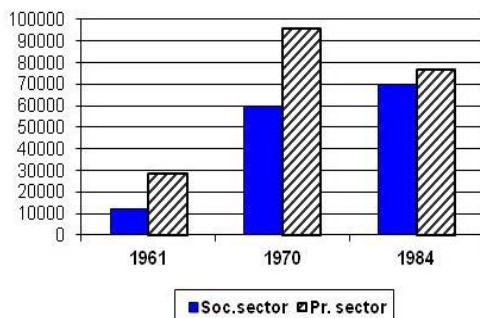
It is important to emphasize that the IPK Osijek - except for integration processes - growing and developing a strong investment policy which was based on a number of development models:

- a) Development based on their own accumulation,
- b) Development on the basis of the so-called. Development premium (government incentives for investment, for example, premiums for sugar, edible oil),
- c) Development on the basis of bank loans and supplier credit (commodity credits).
- d) Cooperation with individual agricultural sector,
- e) Stimulating social resources (milk and meat)
- f) Pooling labor and resources in joint production (wheat and corn).

The first three development forms had a positive impact on the growth of production and expand product range, and therefore the market expansion. Development based on the integration process had a positive impact on the harmonious connection of final production and raw material base, better division of labor, centralization of resources and land, concentration of professional staff and faster circulation and processing of business information. Cooperation with the private sector of

agriculture and increased production volume of agricultural products has enabled comprehensive use of industrial capacity Combine, and other industries in the country. Market orientation Combine reflected and the strong marketing approach. IPK Osijek developed under adverse macroeconomic conditions - which were assigned the socialist primary distribution (through the administrative pricing) - a significant impact on operating results, particularly agriculture and food industry; namely, the state policy of maximizing price protect the standard of living in the country. Despite such adverse conditions Kombinat grew and developed in the technological, production and economic terms. That illustration according to the results of operations and development are presented in the following tables and graphs.

**Figure 2** Land capacities in the area of IPK Osijek (ha)



Source: Monografija „IPK Osijek: Društveno-ekonomski razvoj Industrijsko poljoprivrednog kombinata Osijek 1960.-1985.“; SOUR IPK Osijek, Osijek

The former agricultural cooperatives performed the significant concentration of land which are then given way to the use and management of the social sector (combines or farms). A little later they have integrated with IPK Osijek or their land directly given way to the use and management of the IPK. In this way - directly or indirectly - is committed to the IPK Osijek total of 20,705 hectares of land; by the then municipalities: Osijek = 7.280 ha, Podravska Slatina = 5.830 ha, Donji Miholjac = 4,100 ha and Našice = 3,495 ha. Movement of the total land capacity IPK Osijek shown Fig 2.

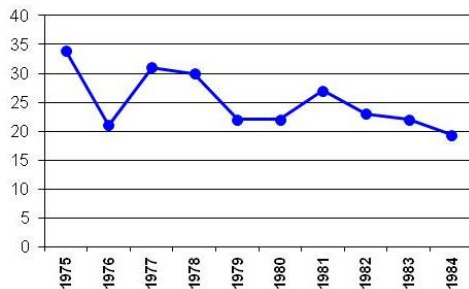
Own resources, as well as other forms of finance (banking and commodity loans, encouraging social resources, pooling of financial resources in the production of common interest), IPK Osijek is 20 years conducted a strong investment activity which ranged in level from the high 20% to imposing 35% of GDP. Kombinat has invested in agricultural production (land development and investment in livestock production) in reconstruction and/or construction of new industrial facilities and IT equipment; Tab 4 and Fig 3.

**Table 4** Total investments in the IPK Osijek in the period 1961 -1984 (000 dinars)

Activities	Total investments	Structure (%)	Own funds	Self-financing (%)
Industry	4.056.331	31,3	2.319.635	57,2
Agriculture	8.315.892	64,2	4.140.651	49,8
Other activities	569.938	4,5	315.243	53,3
<b>IPK Osijek</b>	<b>12.946.161</b>	<b>100</b>	<b>6.775.529</b>	<b>52,3</b>

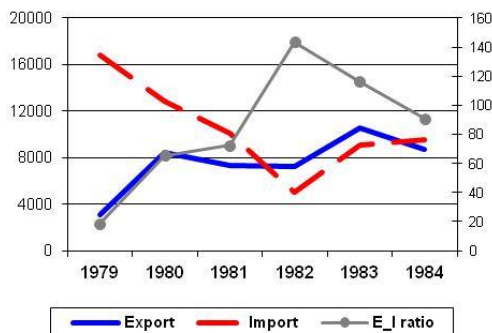
Source: Monografija „IPK Osijek: Društveno-ekonomski razvoj Industrijsko poljoprivrednog kombinata Osijek 1960.- 1985.“; SOUR IPK Osijek, Osijek

**Figure 3** The share of investment in GDP IPK Osijek in the period 1975<sup>th</sup>-1984<sup>h</sup> (%)



Source: Monografija „IPK Osijek: Društveno-ekonomski razvoj Industrijsko poljoprivrednog kombinata Osijek 1960.-1985.“; SOUR IPK Osijek, Osijek

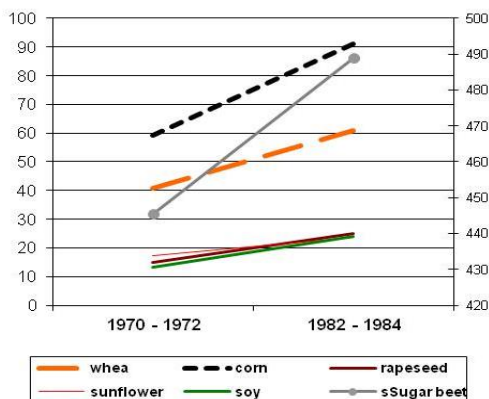
**Figure 4** Foreign trade of IPK Osijek



Source: Monografija „IPK Osijek: Društveno-ekonomski razvoj Industrijsko poljoprivrednog kombinata Osijek 1960.-1985.“; SOUR IPK Osijek, Osijek

\*/ Export-import ratio reading on the right side of the chart

**Figure 5** Average yield in crop of IPK Osijek



Source: Monografija „IPK Osijek: Društveno-ekonomski razvoj Industrijsko poljoprivrednog kombinata Osijek 1960.-1985.“; SOUR IPK Osijek, Osijek

\*/ Data for sugar beet read on the right side of the chart

Systematic development policies, strong investment and hiring professional staff gave very good results in business of IPK Osijek; increased average nature in crop production (Fig. 5), increased the purchase of agricultural products from the private sector (tab. 5), increased industrial processing of raw materials, increased industrial production of finished products (tab. 6) and the increased foreign trade combine exchange with export growth (Fig. 4).

**Table 5** *IPK purchase of agricultural products from the private sector*

N°		unit	1963.	1969.	1984.
1	Whea	t	4.643	19.374	37.742
2	Corn	t	568	4750	74.431
3	Sugar beet	t	18.021	28.476	5.106
4	Sunflower	t	851	2.563	1.394
5	Milk	000 l	-	262	7.177
6	Fatt. pigs	t	1.733	3.061	9.616
7	Fatt. cattle	t	353	1.136	4.899

*Source: Monografija „IPK Osijek: Društveno-ekonomski razvoj Industrijsko poljoprivrednog kombinata Osijek 1960. - 1985.“; SOUR IPK Osijek, Osijek*

**Table 6** *Industrial production of IPK Osijek*

N°		JM	1961.	1971.	1984.
1	Sugar	t	33.090	46.390	80.050
2	Candy	t	4.764	5.450	4.646
3	Cocoa products	t	28	6.340	4.684
4	Milk	000lit	15.608	15.584	24.115
5	Oil raw and refined	t	1.447	5.315	9.109
6	Vegetables	t	-	4.300	7.330
7	Beer	000lit	-	0	30.725
8	Non-alcoholic beverages	000lit	-	2.355	7.009
9	feed mixture	t	-	76.800	105.680
10	Hemp and flax - fiber	t	-	1.130	1.370
11	Meat and products	t	-	190	779

*Source: Monografija „IPK Osijek: Društveno-ekonomski razvoj Industrijsko poljoprivrednog kombinata Osijek 1960. - 1985.“; SOUR IPK Osijek, Osijek*

#### 4. Conclusion

- A stronger focus on the market economy and integration processes in the Yugoslav economy starting in mid-1960 - after the change of the Constitution of Yugoslavia (1963) and economic reform (1965). In these conditions the business weekly "Economic Policy" from Belgrade (market orientation) began ranking the largest manufacturing companies in Yugoslavia.
- Twelve big companies from the Slavonia and Baranja - five from industry and the seven industrial-agricultural conglomerates during the period 1968<sup>th</sup>-1989<sup>th</sup> there was a highly positioned among the largest companies in Yugoslavia.
- In the wood processing, metal and chemical industries and the energy slavonian companies in the rankings were: Kombinat Borovo; SOUR "Đuro Đakovic", Sl. Brod; "Saponia", Osijek; Kombinat Belišće and "Elektroslavonija", Osijek.
- In the agro-industrial production of Slavonian companies in the rankings the largest companies in Yugoslavia were: IPK Osijek, PIK Belje, PPK Županja, PIK Vinkovci, PIK "Đuro Salaj" - Valpovo, PIK Đakovo and PPK Kutjevo.

- The big companies were the engine of economic and social development in Slavonia and Baranja region - because many of the its composition had more industrial capacity and employed a large number of workers, and included in the production of co-operating companies and develop new facilities in less developed municipalities the region.
- Establishment of IPK Osijek in late 1960 was significant development not only in the sector-agriculture and the food industry but also to create a new economic system in Yugoslavia; IPK Osijek was among the forerunners of market and economic-development processes in the country.
- When it comes to eastern Croatia can be concluded that the establishment and operation of IPK Osijek and other industrial and agricultural complexes greatly contributed to the development of modern agro-industrial production and reconstruction of existing and construction of a number of new industrial capacity in the region which has contributed to social and economic development Slavonia and Baranja.

## REFERENCES

- [1] Grupa autora (1978): *Petnaest godina privrednog razvoja Slavonije i Baranje; 1962.-1977.* Privredna komora Slavonije i Baranje, Osijek
- [2] Grupa autora (1981): *Monografija „Tvornica šećera i kandita Osijek – 1906.- 1980.“*; IPK Osijek, RO Tvornica šećera i kandita Osijek, Osijek
- [3] Grupa autora (1986): *Monografija „IPK Osijek: Društveno-ekonomski razvoj Industrijsko poljoprivrednog kombinata Osijek 1960.- 1985.“*; SOUR IPK Osijek, Osijek
- [4] Ivanović, M.; Subašić, R. (1984): *PIK „Belje” na rang listama najvećih privrednih organizacija u Jugoslaviji*; Znanstveni skup „Tri stoljeća Belja”, Darda, 6.-7.4.1984. Zbornik, str. 752–757, JAZU, Centar za znanstveni rad Osijek, Osijek
- [5] Ivanović, M. (1985): *Istina na rang listama; najveća poduzeća SFRJ*; Glas Slavonije, Osijek, 29. 9.1985. str. 5
- [6] Ivanović, M. (1988): *Transfer razvojnog znanja tehničkih znanosti u regionalna središta i uloga univerziteta*; Univerzitet na pragu XXI veka, str. 89-97, Univerzitet u Beogradu
- [7] Ivanović, M.; Kralik, D.; Vukšić, M. (2010): *Znanstveno-istraživačke institucije Slavonije i Baranje - jesu li u funkciji razvoja regije*; 2nd International Conference „Vallis Aurea: Focus on Regional Development“, Požega, 3.9.2010. DAAAM International Viena, Veleučilište u Požegi, ISBN 978-953-98762-7-0; Proceedings, str. 487 – 496
- [8] Ivanović, M. (2015): *Zasluzni za gospodarski razvoj regije Slavonije i Baranje (1) Ivan Špika – IPK Osijek*; Panon (<http://www.panon.eu/>)
- [9] Ivanović, M.; Tonkovic, Z. (2015): - *Plinifikacija Slavonije i Baranje*, Panon (<http://www.panon.eu/>)
- [10] Kalea Marijan (2015): *Zasluzni za gospodarski razvoj regije Slavonije i Baranje (3) Vladimir Žanić*; Panon; 2015. (<http://www.panon.eu/>)
- [11] POLET, (2013): *Ekonomska propaganda u Jugoslaviji 1969.–1980.*; Metaklinika, Beograd

[12] Vidaković Stjepan (2015): *Zaslужni za gospodarski razvoj regije Slavonije i Baranje (2) Baron Edmund Gutmann*; Panon (<http://www.panon.eu/>)

[13] Volner, Hrvoje (2012): *Drvena industrija Slavonije s posebnim osvrtom na obitelj Gutmann do kraja 1918. godine*, u: Historijski zbornik, Vol. 65. No. 2., Zagreb 2012.

[14] \* \* \* (1970 -1989): *200 najvećih poduzeća u Jugoslaviji*; Ekonomska politika, Beograd;; godišta 1970. - 1989.

[15] \* \* \* (1965 - 1985): *Monografije: „Slavonija ' 65. -' 70.-' 75.“- ' 80.- ' 85.“*; Litokarton, Osijek, Osijek, 1965. - 1986.

**Darija Kuharić, mag.educ.angl.et germ.**

Poljoprivrednifakultet u Osijeku

Ul. kralja Petra Svačića 1d

HR-31000 Osijek

031/554-940 031/554-801

dkuharic@pfos.hr

**Marina Vinaj, PhD.**

Muzej Slavonije

Trg Sv. Trojstva 2

HR-31000 OSIJEK

031/208-506 031/250-741

marina@vinaj.mso.hr

**Ines Hocenski, univ.mag.inf.sc.**

Filozofski fakultet u Osijeku

Odsjek za informacijske znanosti

L. Jägera 9

HR-31000 Osijek

031 494-736 031/212-514

ihocenski@ffos.hr

## **FAMILY MOSAIC - A PRIVATE COLLECTION OF MANUSCRIPT RECIPE BOOKS**

### **OBITELJSKI MOZAIK - PRIVATNA ZBIRKA RUKOM PISANIH RECEPATA**

#### **ABSTRACT**

*Private manuscript cook collections are rare and special finds, so decoding their origins poses interesting challenges. But, if we simply look at manuscript recipe books as records of actual or potential culinary practice, we are at a loss. Standard tools exist for identifying general period and standard scholarly protocols for examining, i.e. reading manuscript cook books for presentation to modern audiences. However, if read in conjunction with other documents and materials found tucked between the pages, we may consider the contents of the collection in terms of its place in time and place. Our collection of manuscript recipe books is rich in valuable non-recipe inclusions. Along with recipes written on scraps of papers or on pieces of notepaper, recipes clipped from newspapers and some clipped from product packings, there are different pamphlets, household account information, letters, postcards, a résumé, bills etc. This additional biographical material may help get a broader perspective of the family and its members, the traces of which were tightly interwoven in the history of Eastern Slavonia. Therefore, a scholarly approach to study some of the named artifacts was done in three phases: description, induction and speculation. Although the first step of the analysis was characterised by pure objectivity, the next two phases, an emotional response to the non-recipe inclusion of the collection cannot be avoided, being a part of personal*

*heritage. Besides, oral history interviews were conducted in order to help place the tipped-in contents within historical and social framework.*

**Key words:** *manuscript recipe books, private collection, tipped-in content, biographical material, Eastern Slavonia*

## SAŽETAK

*Privatne zbirke rukom pisanih recepata vrlo su rijetke i dragocjene, tako da određivanje njihovog podrijetla predstavlja zanimljiv izazov. Na gubitku smo, ukoliko se zbirke recepata jednostrano tumače isključivo kao izvor stvarne ili potencijalne kulinarske prakse. Postoje standardni načini za određivanje vremena nastanka i standardni znanstveni postupci istraživanja, odnosno tumačenje zbirki recepata suvremenoj publici. Ipak, čitaju li se zajedno s ostalim dokumentima i materijalima umetnutim između stranica, mogu se percipirati sadržaji zbirke u smislu prostora i vremena. Naša privatna zbirka rukom pisanih recepata bogata je umetcima koji nisu isključivo recepti. Dakle, uz recepte napisane na komadićima papira ili notesa, receptima izrežanih iz novina ili omota određenih proizvoda, nailazimo na različite reklame, letke, podatke iz kućnog proračuna, pisma, razglednice, životopis, račune itd. Ovaj dodatni biografski materijal pomaže u razumijevanju šire slike obitelji i njezinih članova, čiji su tragovi utkani u povijest Istočne Slavonije. Nadalje, u istraživanju odabranih dokumenata korištena je metoda analize (opis, indukcija i spekulacija). Iako se prvi korak u analizi temelji isključivo na objektivnosti, u druge dvije faze nije se mogao izbjeći subjektivni pristup artefaktima, jer su dio privatnog nasljeđa. Osim toga, provedeni su i usmeni povijesni intervjui, kako bi se pomoglo staviti dokumente u jasniji društveno-povijesni okvir.*

**Key words:** *zbirka rukom pisanih recepata, privatna zbirka, umetak, biografski materijal, Istočna Slavonija*

## 1. Introduction

From the sixteenth through the nineteenth century, the manuscript cookbooks were the common form of recipe keeping. They are generally handwritten recipes collected by one person (usually a woman) or a series of people over successive generations and come in a variety of forms (Masters, 2013, 1). They are invaluable resources for scholars in a variety of fields, including history, economics, anthropology, sociology, linguistics, nutrition and food studies. These manuscript cookbooks hold a wealth of information: they operated as very personalized records of what happened in the kitchen, as well as in other parts of the house. Manuscript cookbooks — collections of handwritten culinary recipes — are rich academic resources as well as priceless personal treasures.

When it comes to the United States and Canada, it has become vogue for scholars, historians, and modern cooks to look at cookbooks as historical documents that contain important information about the lives and lifestyles of women and their families (Kirsch, 2013, 3). For example, "manuscript cookbooks are (...) rescued primarily from flea markets, antique stores, and the shelves of my relatives. (...) As interest in cookbooks and recipes has grown, so too has the list of organizations with large, publicized culinary collections. Many of these collections are housed within the academic libraries of colleges and universities, although some public libraries, such as the New York Public Library, boast sizable collections of cookbooks and related ephemera. The Library of Congress is also home to manuscript



cookbooks and handwritten recipes, some of which hail from prominent figures in United States history, such as Thomas Jefferson's handwritten recipe for ice cream." (Kirsch, 2013, 7) Among the university and college libraries whose culinary collections feature manuscript cookbooks, those at Kansas State University are among the most searchable and accessible. The Kansas State University Library is home to a large cookery collection of more than 15,000 cookbooks and related volumes. Included in this collection are more than 25 manuscript cookbooks in at least five different languages from the early eighteenth through the mid-twentieth centuries. (Kirsch, 2013, 11) For many years, the domestic lives of everyday women were not considered an important area of study. Beginning in the late 1960s, scholars, historians, and researchers began to look more carefully at the lives and experiences of lower- and middle-class women in the nineteenth and early twentieth centuries. As the area of study grew and gained traction with the academic community, researchers found themselves wondering, "How can we learn what these women's lives were like?" This proved to be a challenging question. These women were not wealthy ladies featured in the society pages of newspapers. They were not celebrities, activists, or the wives of powerful men. Many of these women had limited literacy skills, and they attended school only briefly, if at all. If their names are recorded anywhere, it is on birth, marriage, and death certificates, immigration records, and church registries. (Kirsch, 2013, 4)

Fortunate enough to inherit a manuscript cookbook collection from Marija Palčić, two of the authors have become intimately involved in studying these manuscripts for the clues they contain. It is not only about actual culinary practices of their female ancestors. From the historical point of view, they deliver much more than a glimpse into a family's culinary habit. It was our wish to preserve and organize these unique documents, to make them accessible to a broader audience. But, making sense out of the culinary manuscript is not easy: inherent problems present a challenge in the process of discovery of the family heirloom. One of the characteristics of manuscript cookbooks was that they were not formal collections. Therefore, there were no rules as to what might be kept inside. As one turns the pages of this very personal piece of history, one may come across the tipped-in content and the ephemera found within the pages. Besides the newspapers clippings, there are accounts, letters, the scrawls of a child's hand on some pages, and handwriting practice. What is inside is variant and sometimes quite impressive in scope. (Coup, 2014) Readers of manuscript cookbooks almost certainly learn more than just the ingredients in heirloom recipes, as family histories and stories are often interwoven with the instructions for preparing foods. (Kirsch, 2013, 16) In this way, a lot can be learned about genealogy and relationships among different members of the family and their role in time and space.

Unlike American or Canadian scholars, who in most of the cases examine collections of unknown (mostly female) authors or women known to them thanks to the names written on the covers, the authors of this paper analyzed a private manuscript collection. Since manuscript recipe books and recipe scrapbooks can be analyzed not only as cultural but also historical and artifacts (Rotger, 2011, iii), in this paper the tipped-in content found between the pages of authors' private collection was examined from the previously mentioned points of view. Although many facts were well known to one of the authors who witnessed them in her childhood, some were learned about from a family member or a witness to the time<sup>1</sup>, so that written evidence provided a broader perspective. The family is the most common and for many the most interesting element in the nearby world (Kyvig & Marty, 2010, 20). Each one has its own definition, identity, and history, the details of which are significant to its members

---

<sup>1</sup> Branka Palčić (1938) and Kata Stavrić (1936), oral history interviewees

and often to others as well. Not only for better understanding of family affairs, but for getting a clearer picture of the role of some family members within social environment and time framework they lived in. Therefore, the authors chose a few tipped-in documents to show how life paths of some family members are woven into the history of Eastern Slavonia (Nuštar – Vinkovci – Osijek).

When taking over our collection of three handwritten recipe books, we were informed by a close relative that the recipes were not only taken down by Marija Palčić, born Nagy (1914-2002) and her mother Rozalija, born Gerard (1887-1977), but that there was a probability that part of the manuscript was handwritten by the oldest known female ancestor Jula Gerard (1851-1946). (Kuharić et al, 2015, 207). But, the keeper of family tradition was Marija Palčić: it was she, who took care of her female ancestors' cooking heirloom and tucked between pages of her own manuscript cookbook various ephemera and, according to her opinion, important or precious documents (letters, invoices, résumé, post-card). In this way, she preserved the past, which allowed us to shed light on social, cultural and economic history of the first part of 20th century in the eastern part of Croatia from the perspective of her broader family. The number of the tipped-in contents varies from notebook to notebook, but the last (or the latest) one is the richest in supplemented material.

## 2. Methodology

Since these supplemental sources, artifacts, are a part of material culture, a scholarly approach proposed by J. D. Prown (1982) was applied in the research, a working method that has three progressive stages: description (subdivided into analysis of substance, content, and form); deduction (subdivided into analysis of sensory engagement, intellectual engagement, and emotional response); and speculation (comprising the formulation of hypotheses and theories, followed by planning for scholarly investigation and validation). Besides, in order to fill in some gaps and to gather data not available in written records about events, people and processes, oral history interviews were done. Oral history interviewing is one more tool in the larger repertoire of methodologies used for research in history, anthropology, and folklore. Oral history collects information about the past from observers and participants in that past (Truesdell, 2009).

## 3. Tipped-in documents

### 3.1. Notebook #1 (labelled as "Mode blok za kolače knjiga za kolače")

(on the inside of the back cover of the notebook there is a reminder „Macuška, Zmaj Jovina 21<sup>2</sup>, therefore it is to be concluded that this manuscript cookbook belonged to Rozalija Nagy.)

#### 3.1.1. TELEGRAM

Known as one of the only forms of (inter)national communications at the time, the telegram was sent from Seka<sup>3</sup> (SlavonskiBrod) to HedicaKerner (Vinkovci, 14 Zagrebačka Street), the daughter of MarijaPalčić's sister, AnkicaKerner, on 23<sup>rd</sup> of ...<sup>4</sup> 1956. It was the time in which letters took days to arrive at their destination, and the telegram was able to relay information almost instantaneously: according to the postal data available, it was sent at 10.31 and

---

<sup>2</sup> Macuška was Marija Palčić's nick name. It is the same nick name used by Rozalija Nagy in her letter (3.3.4.) to Marija & Josip Palčić („My dear Macuško and Miluško!“)

<sup>3</sup> the identity of the person unknown to the authors

<sup>4</sup>illegible

received at 11.45. The most striking characteristic about this telegram is that the strips containing printed name of the recipient and her address, data about the initial post office as well as the content were cut out and glued to the telegram blank, not actually typed onto the form. On the other hand, parts of the telegram indicating the reception were filled out by hand in pencil by a post officer. It was a wedding congratulations telegram; one of the guests at H. Kerner's wedding was Kata Stavrić, born Filipović<sup>5</sup>, one of our oral history interviewees.

### 3.1.2. LETTER

The letter dated November 13th (or 19th?) 1957 was written in ink by Zdenko Palčić, Marija Palčić's son born in 1937. It was sent from Zagreb, where he was studying agriculture. It seems that, because of his age, he did not pay too much attention to the tone of his letter: it was quite angry, insulted and defensive. Still, he tried to be as much polite as he was expected to. Despite the fact that the letter was addressed to both parents, it seems that he was actually addressing his mother. He even wrote „dad“ with a capital d. The letter itself may give a very good insight in the relationship between the parents and their son.

## 3.2. NOTEBOOK #2 (labelled "Nuštar")

### 3.2.1. POSTCARD

A black-and-white postcard from Rovinj, 15mm x 12.5mm in size, written in ink. Although addressed to Marija Palčić<sup>6</sup>, there is an attention line "for Zdenko". It was written and sent on August 18, 1958 by Branka Mađarević, her future daughter-in-law. Although the text itself reflects the intimate relationship between two young people, Branka expressed her respect towards Zdenko's mother in the closing line extremely politely, by sending her "a hand kiss". From a social and historical point of view, it is an interesting sentence: many would argue that such kind of gesture indicating courtesy could not be used in the former Yugoslavia, in a socialist country. Nevertheless, Branka's parents (Marija and Franjo Mađarević) were well-known and popular female hairdressers in Osijek. As private persons, they performed an economic activity continuously and independently in order to achieve income. In this way, they did not fit the generally accepted definition of working class, nor did their family way of life and manners. Despite the fact that the expression "Kistihand"<sup>7</sup> was removed from everyday speech after World War II, her parents' customers did not leave their hairdresser salon without being greeted in this way. The same pattern was included in their child's upbringing.

---

<sup>5</sup>K. Stavrić was born in Bošnjaci on November 24th, 1936. She started 7 year formal schooling in Županja and in 1950 entered gymnasium in Vinkovci that provided her with advanced secondary education. During a five-year period she lived as a roomer in Zagrebačka Street with the Đaković family, just opposite the house no. 2 which the Matović family (Katica and Milan along with their two daughters, Mirjana and Biljana) sold to Rozalija Nagy and moved to Belgrade in 1954 or (less possibly) 1955. Hedviga Kerner also attended the Gymnasium and at a point she was Katica's classmate, but being a poor student, she faced grade retention and left school shortly thereafter. She started working with her mother, Ankica Kerner, who owned a photo studio ("Foto Heda") in Lenjinova Street in Vinkovci. In 1956, she married Pepi Štanfel and left for Zagreb. According to the cadastral map, the house in 2 Zagrebačka Street is still owned by H. Štanfel.

<sup>6</sup>The address "21 Zmaj Jovina Street" – the remark about this, apparently then new address, was made on the back cover of the Notebook#1 by Rozalija Nagy

<sup>7</sup>"Küss' die Hand" in German, a hand kiss in English

### 3.3. NOTEBOOK #3 (no label, the latest one)

#### 3.3.1. LETTER

Another letter from Zdenko Palčić to his parents ("My dearest"<sup>8</sup>, plural in Croatian) from Zagreb on the 2.<sup>9</sup> of October, 1957. In comparison with the above mentioned letter, there are several pieces of information with regard to the family: the then 20 year-old student showed interest in Seka's<sup>10</sup> and Majkica's<sup>11</sup> travelling plans to Vinkovci, reported about his spouse-to-be's recovery after having her tonsils taken out, and told a hearsay story of alleged "malversation" by Terek<sup>12</sup> and Štanfel<sup>13</sup>. Interestingly enough, this letter again proves that it was actually directed to his mother.<sup>14</sup> As for his father, Zdenko wanted to know whether autumn sowing<sup>15</sup> had been done on time because of poor weather conditions. Besides, he supposed that his father had been "furious", since the Football club "Proleter"<sup>16</sup> had lost a match in Kula<sup>17</sup>.

#### 3.3.2. AGREEMENT

On December 11th, 1940 Josip Palčić<sup>18</sup> signed the agreement form (A4 paper format in duplicate) for the purchase of a radio (Model Lorenz BL 40 6 tubes<sup>19</sup>) in the amount of 4,800 dinars. The sales contract contains printed terms and conditions under which the radio was sold to him by the firm J. Herzl from Zagreb. The handwritten data in pencil refer to:

- personal information about the buyer,
- model of the radio,
- total price in dinars (the price reduced for the value of the old radio, the amount of money paid in cash as well as monthly installments),
- private property of the buyer.

The tax stamp was affixed.

#### 3.3.3. RÉSUMÉ

Josip Palčić's résumé was typed on November 23rd, 1954 (presumably?) with the intention of applying for the job at the Agricultural Institute in Osijek<sup>20</sup>. In a short introduction regarding the year and place of his birth, J. Palčić names of the schools he attended (Križevci, Zagreb) in order to become an agricultural technician. On April 1st, 1934, he started to work in Zagreb and three years later, he became a supervisor of the state farm in Šašina Greda/Topolovac (Sisak), where he stayed for six years. His professional career brought him to Eastern

---

<sup>8</sup> "Dragi moji!"

<sup>9</sup> the second number is unreadable due to smeared ink

<sup>10</sup> the identity unknown to the authors

<sup>11</sup> R. Nagy was petnamed Majkica in the family.

<sup>12</sup> Terek: family name of Z. Palčić's landlords in Zagreb at the time (information provided by B. Palčić, married to Z. Palčić from 1962-1966)

<sup>13</sup> Štanfel: family name of M. Palčić's niece and her husband

<sup>14</sup> "Mum, if there is any hard work to be done at home, leave it to me." vs. "How's dad?"/"Dad must have been furious because..."

<sup>15</sup> Josip Palčić was an agricultural engineer.

<sup>16</sup> In 1947, FC Proleter was founded in Osijek. Twenty years later, the club changed its name to FC Osijek.

<sup>17</sup> A town in Vojvodina, Republic of Serbia. The local football club was called "Hajduk".

<sup>18</sup> At that time J. Palčić worked as a supervisor of The Banate Farm in Šašina Greda.

<sup>19</sup> [http://www.radiomuseum.org/r/lorenz\\_super\\_bl40.html](http://www.radiomuseum.org/r/lorenz_super_bl40.html)

<sup>20</sup> The Agricultural Institute Osijek was founded in 1961: before that it was called The Institute for Improvement of Agriculture.

Slavonia: since 1943, he worked on state farms in Dalj, Drenje, Ivankovo, and Nuštar. In 1946, he was sent to Agricultural Experiment Station, where he managed selection fields for eight years.

Today there is a couple of Internet links with regard to the importance of J. Palčić as an agricultural engineer. He was among the pioneers who played a significant role in the development of the Department of Seed Production at the Agricultural Institute Osijek<sup>21</sup>. Hence, one of the irrigation channels near Osijek was named after him.<sup>22</sup>

### 3.3.4 LETTER

Although there is no date, it can be assumed that it was written in winter 1964/1965 by Rozalija Nagy. In a four page letter written in ink she mentioned cold, winter and ways of heating at the time (coal and wood) as well as the first author of the paper, referring to her as baby "...and bring her along next time."<sup>23</sup> The first part of the letter was dedicated to a big novelty in the family: a television set purchased by Marija and Josip Palčić. Everyday stories within family and neighbourhood were told. From a historical and social point of view, the most striking is the difference in naming her domestic helpers: Rozalija dismissed lazy and gossip prone Bara, but she was very satisfied with "snaša", who came twice a week. The question is if the difference in (not) naming them lies in the fact that the former comes from Vinkovci and the latter from a nearby village.

## 4. Conclusion

Manuscript cookbooks — collections of handwritten culinary recipes — are rich academic resources as well as priceless personal treasures. Some have ended up in libraries, archives or historical societies, while others remain in private collections. They are invaluable resources for scholars in a variety of fields, including history, economics, anthropology, nutrition, sociology, and food studies. Unlike published material, manuscript cookbooks can be called unique.

Unfortunately, the position of manuscript cookbooks in the United States and Canada, where numerous manuscript cookbooks are listed online in the ongoing Manuscript Cookbooks Survey database, cannot be compared to the one existing in the Republic of Croatia. Libraries, archives and private collectors wrestle with the problems of procuring, conserving, restoring, cataloguing, and accessing them. With respect to the rich history of Eastern Slavonia, the authors strongly believe that a lot of potential is unused.

---

<sup>21</sup> <http://www.poljinos.hr/index.php?str=tekst&kat=21&id=105>

<sup>22</sup> [http://www.mzoip.hr/doc/studija\\_o\\_utjecaju\\_na\\_okolis\\_13.pdf](http://www.mzoip.hr/doc/studija_o_utjecaju_na_okolis_13.pdf) (p.539, p.544)

<http://www.obz.hr/hr/pdf/zastitaokolisa/Osnova%20obiljezja.pdf> (p. 26)

<sup>23</sup>The first author was born in June 1964

### *Appendix 1 A part of family tree*



*Source: data known to the authors*

## REFERENCES

- Kyvig, David E., Marty, Myron A. (2010): **Nearby History: Exploring the Past Near You**, AltaMira Press/ American Association for State and Local History, 3rd Edition, ISBN-13: 978-0759113008, ISBN-10: 0759113009, available at <http://www.amazon.com/Nearby-History-Exploring-American-Association/dp/0759113009> (accessed April, 14th 2016)
- Kuharić, D., Hocenski I., Mioković, T. (2015): **A Gift of The Past to the Future: A Keepsake of Home Cookbooks and Some Fragments of History of Nuštar**, in: 4th International Scientific Symposium **Economy of Eastern Croatia – Vision and Growth**, Osijek 21st-23rd May, ISSN 1848-9559, p. 204-213
- Božić-Bužančić, Danica *Obiteljski arhivi – sređivanje i naučna obrada „Arhivski vjesnik“ 14/1971. 275.-287.* available at [hrcak.srce.hr/file/184585](http://hrcak.srce.hr/file/184585)(accessed April, 14th 2016)
- Coup, Elizabeth (2014): **Kitchens of the Past: New Manuscript Cookbook Collection**, in *Conversant* (2014), the Phillips Library at the Peabody Essex Museum, available at <http://www.pem.org/library/blog/?p=3278> (accessed April, 14th 2016)
- Kirsch, JulieAnna (2013): **Food for Thought: Libraries and Manuscript Cookbook Collections**, University of North Carolina at Greensboro, available at <https://juliekirsch.files.wordpress.com/2013/03/food-for-thought-libraries-and-manuscript-cookbooks.pdf> (accessed April, 14th 2016)

Masters, Kirsten (2013): **The Incredible Treasures Of Manuscript Cookbooks**, available at [www.ilab.org/eng/documentation/1142-the\\_incredible\\_treasures\\_of\\_manuscript\\_cookbooks.html](http://www.ilab.org/eng/documentation/1142-the_incredible_treasures_of_manuscript_cookbooks.html) (accessed April, 14th 2016)

Prown, Jules David (1982): Mind in Matter: An Introduction to Material Culture Theory and Method in *Winterthur Portfolio*, Vol. 17, No. 1 (Spring, 1982), pp. 1-19, published by: The University of Chicago Press on behalf of the Henry Francis du Pont Winterthur Museum, Inc., available at [http://ciuhct.fc.ul.pt/textos/Prown\\_1982.pdf](http://ciuhct.fc.ul.pt/textos/Prown_1982.pdf)(accessed April, 14th 2016)

Rotger, Barbara (2011): **How to Read a Recipe Box: A Scholar's Guide to Working with Personal Recipes**, thesis, Metropolitan College, available at [https://open.bu.edu/pdfpreview/bitstream/handle/2144/5660/barbara\\_rotger\\_thesis.pdf?sequence=1](https://open.bu.edu/pdfpreview/bitstream/handle/2144/5660/barbara_rotger_thesis.pdf?sequence=1) (accessed April, 14th 2016)

Schmidt, Steven (2015): **What Manuscript Cookbooks Can Tell Us that Printed Cookbooks Do Not**, available at <http://www.manuscriptcookbookssurvey.com/essays/553/>(accessed April, 14th 2016)

Truesdell, Barbara (2009): **ORAL HISTORY TECHNIQUES: How to Organize and Conduct Oral History Interviews**, available at <http://citeseerx.ist.psu.edu/viewdoc/download;jsessionid=F02DA935F1170B85FE3573F432D13B20?doi=10.1.1.305.1755&rep=rep1&type=pdf>(accessed April, 14th 2016)  
<http://nk-osijek.hr/nk-osijek/nogometni-klub-osijek-kroz-povijest/>(accessed April, 14th 2016)  
<https://wp.nyu.edu/manuscriptcookbooksconference/about/>(accessed April, 14th 2016)

**Višnja Lachner, PhD, Senior Teaching and Research Assistant**

Faculty of Law in Osijek  
Stjepana Radića, 13, 31000 Osijek  
Phone: 091 224 55 37  
E-mail address: vlachner@pravos.hr

**Jelena Roškar, mag. iur., Young Teaching and Research Assistant**

Faculty of Law in Osijek  
Stjepana Radića, 13, 31000 Osijek  
Phone: 091 224 55 20  
E-mail address: jroskar@pravos.hr

**THE IMPACT OF THE TRIANON TREATY ON THE ECONOMIC  
SITUATION OF "BELJE"**

**UTJECAJ TRIANONSKOG SPORAZUMA NA GOSPODARSKI POLOŽAJ  
„BELJA“**

**ABSTRACT**

*After the dissolution of the Austro-Hungarian Empire in 1918, they were created at the same time the new nation-states including the Kingdom of Serbs, Croats and Slovenes. On the basis of the peace agreement signed in Saint Germain, the all crown good of former Austro-Hungarian Empire belong to the heirs in which they find themselves after demarcation. Thus, the estate of Friedrich Habsburg went to Kingdom of SHS, and later to Yugoslavia. The provisions of the Trianon Agreement, signed between Hungary and the **Triple Entente**, stopped the Serbian occupation of Baranja (until Pecs) and Baranja is divided into two parts, northern, which remains part of Hungary and south, assigned to Kingdom of SHS. Consequently, comes to casualties of estates that are lying on the boundary line established by paragraph 27 of the Trianon contract. With this act the most affected was "Belje", as the greatest good of Baranja.*

*In this paper, authors are dealing with Trianon Treaty which edited the border dispute between the Kingdom of SCS and Hungary and are trying to explain the impact of demarcation on the legal and economic situation of the former estates, now goods or economic enterprises "Darda" and "Belje". Thereby, the authors are considering the cases of goods "Darda" and "Belje" from their occurrence, their position during the Austro-Hungarian Empire, through large-scale changes after the collapse of the Monarchy and the establishment of the State of SHS and the period from 1918 to 1945. Furthermore, by signing of the Trianon peace treaty, Baranja, by then a single entity, was divided into two parts, so the authors are explaining the legal status of Baranja, originally designated by administrative organization in 1922, then the division of the Kingdom of Yugoslavia in „banovine“ 1929 and finally incorporation of the territory of Baranja in the composition of the Republic of Croatia after 1991. In this paper, the authors particularly emphasize the legal, administrative and economic aspects of changes in the ownership structure of these economic subjects and they analyze legal provisions that allowed this. The authors also briefly touch upon the current situation in the sample cases.*

**Keywords:** *The Kingdom of Serbs, Croats and Slovenes; borders of Baranja, the Trianon Treaty, the estate "Belje" and "Darda", economic situation.*



## SAŽETAK

*Raspadom Austro- Ugarske 1918., nastale su istovremeno nove nacionalne države među kojima i Kraljevina Srba, Hrvata i Slovenaca. Na temelju mirovnog ugovora potpisanog u Saint Germainu, sva krunska dobra bivše Austro- Ugarske Monarhije pripadaju nasljednicima u kojima se zateknu nakon razgraničenja. Tako je i vlastelinstvo Fridricha Habsburškog pripalo Kraljevni SHS, odnosno kasnije Jugoslaviji. Odredbama Trianonskog sporazuma, potpisanog između Mađarske i Sila Antante, prestaje srpska okupacija Baranjske Županije (sve do Pečuha), a Baranja se dijeli na dva dijela, sjeverni, koji ostaje u sastavu Mađarske te južni, dodijeljen Kraljevni SHS. Slijedom toga dolazi do stradavanja vlastelinstava koja su ležala na graničnoj liniji utvrđenoj paragrafom 27. Trianonskog ugovora. Time je najviše pogodeno «Belje», kao najveće dobro Baranje.*

*U ovome radu pristupnice se bave Trianonskim sporazumom koji je uredio granično pitanje između Kraljevine SHS i Mađarske te pokušavaju objasniti kakav je utjecaj razgraničenja na pravni i gospodarski položaj bivših vlastelinstava, sada dobara «Darda» i «Belje». Pri tome autorice prate slučajeve dobara „Darda“ i „Belje“ od nastanka, njihova položaja za vrijeme Austro-Ugarske Monarhije, preko zamašnih promjena nakon raspada Monarhije te uspostave Države SHS i razdoblja od 1918. do 1945. Nadalje, potpisivanjem Trianonskog mirovnog sporazuma Baranja, do tada jedinstvena cjelina, podjeljena je na dva dijela, pa autorice objašnjavaju i pravni status Baranje, prvotno određen administrativnim uređenjem 1922., potom podjelom Kraljevine Jugoslavije na banovine 1929. i konačno inkorporacijom teritorija Baranje u sastav Republike Hrvatske nakon 1991. U radu autorice osobito naglašavaju pravne, upravne i gospodarske aspekte promjene u vlasničkoj strukturi ovih gospodarskih subjekata te analiziraju zakonske odredbe koje su to omogućavale. Autori se također ukratko dotiču i današnje situacije u ogleđnim slučajevima.*

**Ključne riječi:** *Kraljevina Srba, Hrvata i Slovenaca; granice Baranje, Trianonski sporazum, vlastelinstva „Belje“ i „Darda“, gospodarski položaj.*

### 1. Introductory remarks

Once the area between the Drava and Sava were liberated from the Ottomans in the war which lasted from 1683 to 1699 it was obvious that the continuity of social and historical trends in terms of feudalism were not preserved and that the constitution and functioning of late feudal estates had to be based on new foundations. To a large extent that was also true for the liberated area of Hungary between Lake Balaton and the Danube (Transdanubia). Also, in Baranja (as a part of a wider area of Transdanubia), located at the southeast end of the Danube –Drava interfluvium, there are evident similarities with the events in the neighboring Slavonian ground (Karaman, 1986, 77). The local late feudal estates express many characteristics related to the dissolution of the Habsburg Monarchy in 1918, for example, the impact of the joint national framework, substantially equal administrative-political organization, etc. as well as the corresponding differences in the period from the 18<sup>th</sup> to the 20<sup>th</sup> century. In this article we are going to look into some of the essential characteristics of two adjacent properties Belje and Darda and the changes of their legal position resulting from delimitation of the Kingdom of SCS with Hungary. During the application of the law passed in 1848, Darda estate stretched westward of the boundary of Belje estate, to about the line of Magyarbóly Beremend (the southern boundary was Drava River). Since the Darda estate, which headquartered in Darda, was owned by foreigners, it was constantly leased and it frequently changed owners until the Duchy Schaumburg- Lippe finally decided to sell the good in 1916 to Hungarian agrarian rent Bank in Budapest. The bank managed the estate in accordance with generally accepted practices, however, soon the bank also decided to sell the so called "farm in Magyarbóly" and the "forest economy in Magyarbóly" on August 22, 1917 to Belje estate. This way the Belje and Darda properties were merged and as such they entered the new Yugoslav state as a single property. Darda property, which entered into liquidation in the eve of the war, consisted of Bezedek (went to Hungary), Kolman, Darda, Ilocska (Iloča- went to Hungary), Ivándárda

(Hungary), Jagodnjak, Karanac, Tvrđavica, Lippó (Lapanča- went Hungary), Čeminac, Magyarbóly (Hungary), Németmárok (Hungary), Pócsi (Hungary), Beremend (Hungary), Alsószentmárton (Hungary), Old (Hungary), Baranjsko Petrovo Selo, Torjanci and Novi Beždan.

Such a united estate enters a new Yugoslav state except that a western part which went to Hungarian state (by the Trianon agreement) was seized from Belje estate (Šimončić- Bobetko, 2000, 106).<sup>1</sup> With the formation of the Kingdom of SCS on December 1, 1918, the entire surface of Belje was found in the composition of the new state which already on January 21, 1919 allowed the National Administration for Banat, Bačka and Baranja to establish authority over Belje, with its headquarter in Kneževo. Belje was placed under sequestration, and was subordinated to the Department of Economy of the National Administration for Banat, Bačka and Baranja, which was led by Mita Klicinov. For the confiscator in charge Klicinov appointed Vladislav Manojlović, who after having stayed in Baranja submitted a report on the existing situation in "Belje" (Kolar-Dimitrijević, 1998, 288).<sup>2</sup> It was the first inventory of "Belje" estate after the collapse of the Austro-Hungarian Empire. Manojlović refused to hand over the property under the administration of the Ministry of Trade and Industry, i.e. the government in Belgrade, but in 1919, specifically on March 14, 1919, the ministry took over "Belje", and the appointed administrator was Vaso Maučević, a member of the Osijek National Representation. Decision of the Ministerial Council no. 3001 of 29<sup>th</sup> January 1920<sup>3</sup>, "Belje" fell under the jurisdiction of the Ministry of Finance, or more precisely under the authority of the General Directorate of State resources in the Ministry of Finance, but the Ministry of Trade and Industry continued to manage "Belje" for a while as a sequestered property, until the change of jurisdiction was completely enabled. As the "Belje" is one of the largest estates in the central part of Europe it is clear why the Serbian government attempted to make "Belje" a court property under fictitious management of various ministries and the General Directorate in Belgrade.

## 2. "Belje" after 1918

The end of the First World War and the dissolution of the Austro-Hungarian Empire directly influenced the change of legal position of "Belje". On the basis of the Article 208 of the Saint Germaine agreement, signed on September 19, 1919, the entire royal property of the Habsburg dynasty, and so "Belje", was supposed to go into the hands of the state in the same form as they were after demarcation. On the territory that belonged to the Kingdom of SCS (Kingdom of Serbs, Croats and Slovenians) there were three fifths of demarcation properties, while the other two fifths remained within Hungarian borders.<sup>4</sup> The status of demarcation was regulated in more details by the Trianon Agreement, signed on June 4, 1920.<sup>5</sup> With this agreement the final demarcation between

---

<sup>1</sup> According to the 1910 nomenclature Belje estate consisted of the following places: Grabovac, Popovac, Branjih Vrh, Šumarina, Suza, Vardarac, Eugenovo, Hecegsentmaron (went to Hungary), Kneževi Vinogradi, Kozarac, Batina, Kamenac, Lug, Lipova (went to Hungary), Nagyarad i Szabar (went to Hungary) and Udvar. Darda estate, which entered into liquidation in the eve of the war consisted of Bezedek (went to Hungary), Kolman, Darda, Iloeska (Iloča-went to Hungary), IvánDárda (Madarskoj), Jagodnjak, Karanac, Tvrđavica, Lippó (Lapanča- went to Hungary), Čeminac, Magyarbóly (went to Hungary), Németmárok (went to Hungary), Poca (went to Hungary), Bermend (went to Hungary), Alsószentmárton (went to Hungary), Old (went to Hungary), Baranjsko Petrovo Selo, Torjanci and Novi Beždan.

<sup>2</sup> What is illustrated are 27,723 acres of arable land. Of these, 3,413 acres sown with wheat, 649 with peas, 284 with sugar beet and 229 with rye ... It points out that the good has 10,032 pieces of cattle, 810 horses, 2,551 pigs, 4,534 sheep, and lists industrial machinery as well.

<sup>3</sup> Belje archive in Kneževo (Further in the text: ABK): Indicators- general data for Belje, 1923, p. 3

<sup>4</sup> By Peace Treaty in Saint-Germain (France) on the basis of article 208 Habsburg-Teschchen family lost 86 277 acres of land, which practically means the southern part of Baranja, famous hunting ground and well known habitat of birds, today's nature park and Reserve "Kopački Rit".

<sup>5</sup> What was meant under the Versailles arrangement is the creation of the geopolitical map of Europe after the First World War which was the result of Versailles and other peace treaties. There is no doubt that Yugoslavia belonged to the circle of those forces which as the winners in the first world war dictated interstate organization in Europe. The kingdom of SCS included former kingdoms of Serbia and Montenegro, since they took part in the Central Powers block in the war against Central Powers this fact was relevant for the inclusion of the Kingdom of SCS in the circle of

the Kingdom of SCS and Hungary was determined. Ante Trumbić participated in the negotiations with Apponoy trying to get bigger part of "Belje" for the new Yugoslav state. Just before the final demarcation with Hungary the whole property of Belje was totaled to 110,385 cadastral acres out of which 24,108 went to Hungary after the final demarcation. Therefore, the size of "Belje", after the Trianon Agreement, was 86,227 cadastral acres, or about 590 square kilometers. This made 30% of former Baranja County, and now it was an integral part of the Kingdom of SCS. Baranja lost almost all factories to the new Yugoslavia, as well as certain parts of arable land and pastures (Kolar-Dimitrijević, 1998, 510)

Territorial division between the Kingdom of SCS and Hungary in 1918 conditioned the new administrative organization of the state. For all legal disputes of the Belje manor that started prior to demarcation, which means before the signing of the Treaty of Trianon, the competent courts were the district courts in Darda and Mohács. The Court of Appeal was in Pecs. After completion of demarcation there was the need for new administrative organization of the Kingdom of SCS. In 1922 the following laws were adopted: Law on General Administration Act, the Districts and Regions Government Act and Regulation (with the force of law) on the division of land into districts. According to this regulation the whole area of the country is divided into 33 regions, and the Baranja region was given to the area of Bačka. The areas were comprised of districts, and in the area of Baranja two districts were included: Darda and Batina (Vrbošić, 2000, 930). According to the decree, administrative and legal headquarters of the area of Bačka was Sombor. Therefore, the Court in Sombor became responsible for all eventual disputes involving "Belje". In 1929 the Kingdom of SCS was divided into regions called '*banovine*'. After the Baranja had become a part of the Danube '*banovina*' based in Novi Sad, the new administrative and legal headquarters became Novi Sad. Changes in the administrative and judicial organization resulted in numerous difficulties. In addition that it was difficult to determine from which authorities to require protection or exercise the rights, a large number of disputes had not been even started. This was the consequence of the new administrative organization which annexed Croatian districts to Sombor, and later to Novi Sad, although all settlements of the districts Darda and Batina, in economic terms, gravitated towards Osijek.

It can be claimed that that the emergence of a common Yugoslav state in 1918 is the product of the process of disintegration of multinational state. The process of its creation can be viewed through two periods: the period of creation of the State of Slovenes, Croats and Serbs<sup>6</sup>, which is solely

---

countries which stood opposite the Central Powers. Soon after the formation of the Kingdom of SCS the slogans of Yugoslavia as the "Versaille artificial creation" echoed, which would have special meaning for further political development of the old Yugoslavia. Considering that the Kingdom of SCS actually entered the order of those states that were part of the order created in the world made by the Versaille and other peace treaties after the First World War, the phrase on artificial creation was to provide Axis countries a division of Yugoslavia and appropriation of certain parts of its national territory. The Kingdom of SCS had not been internationally recognized for a long time, and the superpowers, the protagonists of the Versaille Peace Conference did not allow the Kingdom to participate in the negotiations, but they recognized this right only to the Kingdom of Serbia. This will have a major impact on the demarcation of which is a result of the Trianon Treaty and the position of Baranja in Trianon system. But despite this, it is important to draw attention to the fact that the common Yugoslav state, both the State of SCS, and the Kingdom of Serbs, Croats and Slovenes, occurred before Versailles contract of peace and before the Peace Conference in Paris.

<sup>6</sup> The objective of the existence of the State of SCS was to unite the state with Serbia and Montenegro and already in the beginning of November 1918 there was a conference in Geneva, where many issues that had their roots in the Corfu Declaration were to be solved. The meeting in Geneva, where the government of the Kingdom of Serbia formally recognized the State of SCS, was attended by representatives of Serbian Assembly and the Serbian government headed by Nikola Pašić on one side and representatives of the State of SCS and the Yugoslav Committee on the other. The agreeing parties made their agreement announced on November 9, 1918 in Geneva Declaration, which was based on the fact that there were three Yugoslav states - the Kingdom of Serbia, Kingdom of Montenegro and the State of Slovenes, Croats and Serbs which are uniting in a common state, and the Constituent is recognized its sovereign right to make a final decision on the key issues of that State (a form of government, its interior organization). But soon after the return to Belgrade Serbian government was disbanded and thus declarations were revoked. Apart from the ruling circles of the Kingdom of Serbia, a negative attitude toward the Geneva agreement was held by a leading part of the National Council of Slovenes, Croats and Serbs, and shortly thereafter, on November 25, 1918 National Council as the holder of

characterized by temporariness, because it "was created to disappear" and the formation of the Kingdom of Serbs, Croats and Slovenes. Given the tentative nature of the State of SCS it is understandable that from the legal and political point of view the recognition of existence of that country is questioned by the victorious superpowers in the World War I (Roškar; Lachner, 2012, 174). Namely these governments would actually come in contact with the authorities of the State of SCS, but refused to recognize its existence as a state. The reasons for this negative attitude lay mainly in the imperialist intentions of superpowers, particularly the Kingdom of Italy (Čulinović, 1969, 20).<sup>7</sup> However, despite that, even though the State of SCS did not gather all Yugoslav countries, it represented the first step towards unification into a single state union of all Yugoslavs, who had branched out from the Habsburg Monarchy, and acknowledged the Zagreb National Council for its supreme authority. The 1<sup>st</sup> December Act on the creation of the Kingdom of Serbs, Croats and Slovenes finally legalized the principle that all members of the Croatian, Serbian and Slovenian people must be in the same state, and such a program imposed unification and the need to revise the boundaries of the former state and provincial entities where Serbs, Croats and Slovenes lived. Based on this, the borders with Italy and Hungary were the most controversial (Vrbošić, 2000, 930).

Before we touch the legal position of Baranja regulated by the Trianon peace, it is important to mention the presence of Serbian military units on the territory of southern Hungary after the conclusion of the armistice between Austro-Hungary and the Entente. On November 25, 1918 an assembly was held in Novi Sad. Just before the assembly a Preconference had been held in order to achieve a consent on the method of unification of Vojvodina with Serbia. On that occasion, a number of Serbs and all Croats were in favor of the merger to be carried out simultaneously with the National Council in Zagreb, while the majority was in favor of Vojvodina to be merged immediately regardless the State of SCS. Since there was no agreement about it, it was concluded that a final judgment on this issue be made by the National Assembly. On the same day, November 25, 1918, the Parliament adopted a decision that Vojvodina be directly merged with Serbia in the form of a resolution (Čulinović, 1961, 124-125) On the same occasion at the proposal of Petar Konjović the Second Resolution was made, which reads in the statement: "On the basis of lofty principles of self-determination, on November 25, 1918, Banat, Bačka and Baranja, within the borders drawn by the Entente's Balkan army, is declared seceded from Hungary in both public law terms and political and agrarian terms." (Stojanović, 1939, 65-66). On December 1, 1918 Serbian government annexed Banat and Baranja to Bač, trying in this way to legalize *acquis* based on usurpation acts (Taslidžić, 2002, 87).<sup>8</sup> For the entire duration and until the end of the Paris Peace Conference, Baranja was occupied by the Serbian army, which did not leave the area until 1921, when it was forced to leave by the Trianon peace treaty. Further in the text, the work shows a new border line caused by the signing of the Trianon agreement and tries to explain the most important consequences of demarcation, which were manifested by changes in social and territorial conditions as well as in economic conditions of the border areas, particularly in Baranja.

Treaty of Peace with Austria was signed in Saint Germaine on October 10, 1919. This agreement was of particular importance for the Kingdom of SCS because of repeated international recognition

---

sovereignty reached its conclusion on the unification of the State of Slovenes, Croats and Serbs with the Kingdom of Serbia and Montenegro into a unified State of Slovenes, Croats and Serbs. A delegation of the National Council of Slovenes, Croats and Serbs manipulated the Conclusion and gave a conflicting address to Regent Alexander, who on December 1, 1918 proclaimed the unification of Serbia with the independent States of SCS in the united Kingdom of Serbs, Croats and Slovenes.

<sup>7</sup> The government of the Kingdom of SCS formally recognized the state of SCS on November 8, 1918 and informed about it the Allied governments of Antanta and USA.

<sup>8</sup> "Under the terms of the armistice (Belgrade Convention of February 13, 1918) military occupation of Baranja County and Pécs was agreed and allowed, but what was not allowed was a clear breach of the agreed and accepted, thus signed conditions, which was done by establishing a violent Serbian administration. Not only did the Serbian government act completely illegally and arbitrarily, but it organized real Bolshevism, and with the reason to alienate this County from Hungary, and on the other hand to provide refuge to persecuted Bolsheviks and Communists."

of the newly created state and because of successor rights of the Kingdom of SCS towards Austria. On the basis of the peace agreement signed in Saint Germaine, all crown goods of former Austro-Hungarian Empire belong to the countries in which they find themselves after demarcation. The Treaty of Trianon with Hungary was signed on June 4, 1920. This solved the issue of borders of the Kingdom of SCS and Hungary, as well as a number of other issues between the two countries. It is interesting that with the treaty Hungary renounced the right that it once had to Yugoslav countries while they were within the Habsburg monarchy (Čulinović, 1961, 300-301). In favor of the Kingdom of SCS Hungary renounced Međimurje, Prekmurje, Bačka, a part of Baranja and Western part of Banat. However, what remained within Hungarian borders were Pecs, Mohács and Baja triangle, which was in vain demanded by delegation of the Kingdom of SCS.

Immediately upon arrival At the Supreme Council of the Peace Conference Hungarian delegation handed over the conditions of peace. Comments of the Hungarian delegation were thoroughly developed by an internationally renowned geographer Pal Teleki, with the instruction that certain issues be decided by referendum. However, the peace conference did not take these questions into account (Taslidžić, 2002, 71). Hungary accepted the terms of the peace agreement with the provisions which significantly chipped away a part of its national territory (Taslidžić, 2002, 71).<sup>9</sup>

The final solution of "Baranja issues" is covered by paragraph 27 of the Trianon peace treaty, which states: "The boundary begins nine miles west of Donji Miholjac, exactly where the administrative border between Hungary and Croatian Slavonia used to be, and it goes eastward, from angle 93. Some three kilometers west of Branjin Vrh, the line is to be established in the field as well, and it will go north of Torjanci, Luč, Šumarina and south of Kasad, and the railway station Beremend-Illocska. From here the border goes to the northeast in the direction of the Danube and the angles 169, and about some 8 kilometers towards the north of Batina, which is to be established in the field as well. It is to set a line in the field that will go west of Barannyavara to Kneževo, Sarok, Udvar and Daljok (Duboševica), and east of Izabelafold." (Bösendorfer, 2002, 40). The new boundaries divided former Baranja, i.e. Bačka County into Hungarian and Yugoslav part. Although the Commission endeavored during the demarcation to consider the boundaries of administrative districts, great economic and traffic disturbances appeared in places, because in certain areas the municipalities were still cut off. According to the available sources even then it was transpired that the border was not at all ideal, especially because it ran along the flat terrain, and it lacked some more remarkable geographic contours. This meant that at a certain distance it was necessary to build watchtowers and a series of pyramids of about 60 centimeters distance between them. As a result six municipalities of Mohács district went to the Kingdom of SCS as well as three municipalities of Siklós district and twenty-five municipalities of Brujevar district (Bösendorfer, 2002, 40).<sup>10</sup> The new territorial organization established two new districts of Darda and Batina, which sought to link Baranja stronger to Sombor.<sup>11</sup> Although the transport and economic links of Baranja counties were aimed at Osijek, for political reasons the mentioned districts were annexed to Novi Sad district with whom at that time were connected only by ferry across the Danube. The area south of the line Clemensue (name of the above mentioned boundary line) with a total area of 1,147 km<sup>2</sup> was granted to the Kingdom of SCS and became a part of Serbia, i.e. Vojvodina with its bureaucratic seat in Sombor.

Besides administrative reforms in the public sector of the state administration the new territorial arrangement also required restructuring of "Belje". Since based on the clauses on royal properties the sequestration was abolished, and at the end of 1920 "Belje" fell under the jurisdiction of the Directorate General of the state properties within the Ministry of the Kingdom of SCS. Regulation

---

<sup>9</sup> The area of 282 000 km<sup>2</sup> got reduced to only 93 000 km<sup>2</sup>, and the number of population from 18 200 000 to 7 600 000. In total 63.8% of the territory was lost and 58,2% of population.

<sup>10</sup> The border line was drawn on the basis of Osijek resolution, and this line was for a reason called "the Clemensou line" by "Journal des Debats" on August 19, 1921

<sup>11</sup> See in: Provision on division of land into districts No. 92/1922

on the organization of the state property "Belje"<sup>12</sup> was replaced by the law on December 31, 1921 by which "Belje" was proclaimed the state property, and it continued operating under the name of 'Belje State property'. With this regulation it was determined that the state property "Belje" in Baranja and Šecerana in Branjin Vrh, as inseparable part of the estate, became the state property which was cultivated and exploited by the state in their own way. The main goal of this state property was to achieve the best possible results and revenue for the state (Novaković, 1986, 246). Delimitation created by the Trianon peace resulted in the placement of numerous requests for distribution of the "Belje" area to the interested agrarians and optants who in 1921 came to Baranja from the area that went to Hungary. However the Article 28 of Saint Germaine agreement clearly determined that all properties of the former ruling houses were to belong to those states in which they were found after the delimitation (Šimončić- Bobetko, 2000, 107). Another consequence of the Trianon Agreement was also a dispute started in 1928, which was supposed to resolve the property issue of "Belje". Namely, the former owner of "Belje", the Archduke Friedrich sued the State of Yugoslavia for seizing "Belje" and Topolovac<sup>13</sup>, claiming that both properties belonged to him, that Saint Germaine Agreement could not have been applied to those properties and that according to the Trianon Agreement (article 250) the property was to be returned and the loss compensated (Kolar-Dimitrijević, 1998, 513).

Following the events, in 1941, immediately after the capitulation of the Kingdom of Yugoslavia in the World War II the Hungarian army occupied Baranja. Consequently, "Belje" came under the jurisdiction of Archduke Albrecht, the son of Friedrich von Habsburg, who arbitrarily annexed the state property "Belje" to his own estate which was located in Hungary. Hoping for restitution, Albrecht sent a request to the Ministry of Justice in Bardossy, which in 1942 passed a decision that the Kingdom of Yugoslavia was to hand over the State property "Belje" to the Kingdom of Hungary. This decision resulted in the property-rights dispute with Albrecht which had not been resolved by the end of the Second World War.<sup>14</sup> In the period of 1941 to 1944, during the time of occupation, "Belje" was exploited to the maximum with no further investments and renovations. Much of the property was taken to the estate of Albrecht von Habsburg in Hungary, especially at the end of the war. Livestock was completely destroyed, and the land used to the limit.

### ***3. "Belje" after World War II***

In the circumstances described after the end of World War II "Belje" once again became a part of Yugoslavia. It should be noted that during the Hungarian occupation Directorate General of state property "Belje" operated and worked in Belgrade. Significant efforts were made directed towards re-starting of the production of the good, which reflected in the organizational structure of the good. In 1953, the good was organized as the first state economic conglomerate in SFRY called the Agricultural-Industrial Conglomerate "Belje". The following change in the organization of the conglomerate was made in July 1978 when the plant started to operate under the Law on joint work. Following the mentioned regulations, organizations of the conglomerate was based on the joint work of 19 business organizations that were organized on the functional-territorial principle. Within the framework of joint units the production was organized into six production-processing cycles: production and processing of wheat, mill and bakery products, production and processing of sugar beet, fodder plant, production and processing of milk, corn products and animal feed, breeding and fattening of pigs, poultry and bovine meat and meat products and the production of grapes and wine. In this sense, the production and product quality of "Belje" was one of the most important producers of food in Yugoslavia. During the period of the homeland war it came to the big democratic changes, Serbian aggression and occupation of Baranja and "Belje". In the above-mentioned period from 1991 to 1998 there were no investments in the economy, fields were

---

<sup>12</sup> Official Gazette No. 195/1921, 03.06.1921.

<sup>13</sup> According to the Law of the 1921 Belje became the state property, administratively united with the estate of Friedrich von Habsburg, Topolovac near Sisak.

<sup>14</sup> Today, in the archives of Belje there is a study about that agreement of 1932 in Hungarian language.

abandoned, production was stopped in many plants, the livestock was destroyed and the houses and buildings of "Belje" were devastated. After the completion of the process of reintegration of Baranja in Croatian state Belje is making great efforts in order to enable production. Entering the Agrokor Group on March 21, 2005 "Belje" builds its future within the largest food producer in this part of Europe, and with the introduction of cutting-edge global technology it also monitors the trend of food production, environmental standards and is fully market oriented.

#### **4. Concluding remarks**

The end of World War II resulted in the disintegration of the Austro-Hungarian Empire. Hungary lost a great part of the territory, which allowed, among other things, the formation of the new state of Southern Slavs. Definite arrangement of the border between Hungary and the Kingdom of SCS was established by the Trianon agreement, by which Baranja, so far unique as a whole, was cut in two parts, northern, higher part was assigned to Hungary, while the southern part of the territory became a part of the Kingdom SCS. The division was reflected in the estate that laid in the border zone. "Darda" estate became a part of the estate "Belje" already in 1917, thus the impact of demarcation into manors, in economic and legal terms, is reflected on the example of "Belje". As the "Belje" became one of the largest economies in Europe under the centuries long administration of the Habsburg-Teshen family the policies of Belgrade Serbs is not surprising, as they considered "Belje" as its loot from the First World War and tried to use it to increase its state revenues. Although it formally went under the administration of ministries, and finally under the General Directorate in Belgrade, "Belje" in the interwar period was actually a royal estate. Such a policy caused many consequences. Those of a legal character stood out with the requirements of the Habsburgs, primarily Albrecht, to have "Belje" back, thus created uncertain status of "Belje" in the interwar period. They also influenced the change in the judicial and administrative jurisdiction of "Belje" in order to have it more dependent on Belgrade. Those of economic character reflected on the negative business policy of the good, which due to frequent personnel changes and the negligence of individual directors, could not operate independently of the political leadership, and thus even make a profit. While the period after World War II was marked by significant production and economic development of "Belje", the period of the Homeland War caused significant stagnation in both views. Only with the privatization, i.e. the transition from a planned economy to a market economy, "Belje", within Agrokor, has continued positive business. This way "Belje" good has continued its centuries long tradition in terms of economy.

#### **REFERENCES**

- Bösendorfer, J. (2002): *Nešto malo o našoj Baranji [A little something about our Baranja]*, Beli Manastir
- Čulinović, F. (1969): *Raspad Austro-Ugarske i postanak jugoslavenske zajedničke države, Naučni skup u povodu 50. Godišnjice raspada Austro-Ugarske monarhije [Dissolution of Austria-Hungary and the formation of Yugoslav common state, Scientific conference on the 50th anniversary of the dissolution of Austria-Hungarian Monarchy]*, Zagreb
- Čulinović, F. (1961): *Jugoslavija između dva rata [Yugoslavia between the two wars]*, Part 1, Zagreb
- Karaman, I. (1986): *Osnovna obilježja imanja Belje i Darda u sastavu kasnofeudalnih / kapitalističkih zemljoposjeda na baranjsko-slavonskom tlu do 1918[Basic features of Belje and Darda properties within late feudal and capitalistic manors on the territory o Baranja and Slavonia until 1918]*, Tri stoljeća Belja [Three centuries of Belje], JAZU, Osijek
- Kolar-Dimitrijević, M. (1998): *Belje između dva svjetska rata. Uloga politike u organizaciji beljskog gospodarstva od 1918.-1941. [Belje between the two wars. The role of politics in the*

*organizatin of Belje economic enterprise from 1918-1941]*, Journal of Croatian history 3/30, Zagreb

Novaković, S. (1986): *Državno dobro «Belje» od 1918.-1941. [The state property Belje from 1918 until 1941]*, Three centuries of Belje, JAZU, Osijek

Roškar, J. et. Lachner, V. (2012): *Linija Clemenceau i vlastelinstva na graničnoj zoni [Clemenceau line and manors in the border zone]*, Povećalo-časopis za prosudbu povijesne zbilje [*Povećalo – magazine to judge historical reality*], Vol. 4-5-6-7, Beli Manastir

Stojanović, N. (1939): *Srbija i jugoslavensko ujedinjenje, Beograd [Serbia and Yugoslav unification]*, Beograd

Šimončić- Bobetko, Z. (2000): *Agrarna reforma i kolonizacija u Hrvatskoj II [Agrarian reform and colonization in Croatia II]*; Zagreb

Taslidžić, D. (2002): *Prostor šutnje (vremenu usprkos) [The Space of Silence (despite time)]*, Beli Manastir

Vrbošić, J. (2000): *Reintegracija istočne Hrvatske (Srijema i Baranje) u hrvatski državnopravni sustav tijekom 19. i 20. st. [Reintegration of eastern Croatian (Srem and Baranja) in the Croatian state legal system during the 19th and 20th century]*, Proceedings of the Faculty of Law Zagreb, Zagreb

Provision on division of land into districts No. 92/1922

Official Gazette No. 195/1921, 03.06.1921.





**Novi trendovi  
u razvoju  
gospodarstva**

**New trends in  
economic  
development**

**Mirela Alpeza, PhD.**

Faculty of Economics in Osijek  
Trg Ljudevita Gaja 7, 31000 Osijek, Croatia  
Tel: 031/224-400 Fax: 031/211-604  
E-mail: malpeza@efos.hr

**Petra Mezulic Juric, MA.**

Faculty of Economics in Osijek  
Trg Ljudevita Gaja 7, 31000 Osijek, Croatia  
Tel: 031/224-400 Fax: 031/211-604  
E-mail: pmezulic@efos.hr

**Suncica Oberman Peterka, PhD.**

Faculty of Economics in Osijek  
Trg Ljudevita Gaja 7, 31000 Osijek, Croatia  
Tel: 031/224-400 Fax: 031/211-604  
E-mail: suncica@efos.hr

**THE CHALLENGES OF SURVIVAL OF SMALL AND MEDIUM  
ENTERPRISES OF EASTERN CROATIA IN BUSINESS TRANSFER  
PROCESSES**

**IZAZOVI OPSTANKA MALIH I SREDNJIH PODUZEĆA ISTOČNE  
HRVATSKE U PROCESIMA PRIJENOSA POSLOVANJA**

**ABSTRACT**

*In the life cycle of entrepreneurial ventures, in addition to start-up and company growth, business transfer represents the third critical stage of development. The most common factor that encourages the initiation of the business transfer process is company owner's age, that is, retirement. It is estimated that each year in the European Union around 450,000 companies with around 2 million employees go through the business transfer process, and that the issue of business transfer is not adequately approached in approximately 150,000 companies, which jeopardizes around 600,000 jobs (European Commission, 2011). Underestimating the complexity and longevity of the business transfer process can have significant negative implications for companies, their owners, as well as for a wide network of stakeholders – company owner's family members, employees, suppliers, buyers, banks, local self-government and the national economy in general.*

*Business transfer is an especially important topic for the economy of Eastern Croatia, because of the significant number of owners of small and medium enterprises who are older than 55 years who will in the near future have to deal with the issue of the sustainability of the company after their withdrawal from the business. Previous studies have identified the key components of business transfer ecosystems on which it is necessary to build a support system for the owners of small and medium enterprises, which are in the phase of preparation or implementation of these processes (Van Teeffelen, 2012, European Commission, 2013). The aim of this paper is to analyse the quality of the business transfer ecosystem in Eastern Croatia and the readiness of individual actors and components of the ecosystem to provide support to owners of small and medium businesses in the business transfer process. In the conclusion of the paper, policy recommendations for improving the quality of the business transfer ecosystem in Eastern Croatia are identified.*

**Keywords:** *small and medium enterprises, business transfer, business transfer ecosystem*

## SAŽETAK

*U životnom ciklusu poduzetničkog pothvata, pored pokretanja i rasta poduzeća, prijenos poslovanja predstavlja treću kritičnu fazu razvoja. Najčešći faktor koji potiče iniciranje procesa prijenosa poslovanja je životna dob vlasnika poduzeća, odnosno umirovljenje. U Europskoj uniji procjenjuje se da svake godine oko 450,000 poduzeća s oko 2 milijuna zaposlenih prolazi kroz business transfer, te da se u oko 150,000 poduzeća problemu prijenosa poslovanja ne pristupa na adekvatan način čime se u pitanje dovodi oko 600,000 radnih mjesta (Europska komisija, 2011.). Podejnjavanje složenosti i dugotrajnosti business transfer procesa može imati značajne negativne implikacije za poduzeće, njihove vlasnike, ali i širu mrežu stakeholdera – članove obitelji vlasnika poduzeća, zaposlenike, dobavljače, kupce, banke, lokalnu samoupravu i nacionalno gospodarstvo općenito.*

*Prijenos poslovanja posebno je važna tema za gospodarstvo Istočne Hrvatske zbog značajnog broja vlasnika malih i srednjih poduzeća starijih od 55 godina koji će se u skoroj budućnosti suočiti s pitanjem održivosti poduzeća nakon njihovog povlačenja iz poslovanja. U prijašnjim istraživanjima identificirane su ključne komponente business transfer ekosistema na kojima je potrebno graditi sustav podrške za vlasnike malih i srednjih poduzeća koji su u fazi pripreme ili provedbe ovih procesa (Van Teeffelen, 2012, Europska komisija, 2013). Cilj ovog rada je analizirati kvalitetu business transfer ekosistema u Istočnoj Hrvatskoj, te spremnost pojedinih aktera i komponenti ekosistema na pružanje podrške vlasnicima malih i srednjih poduzeća u procesu prijenosa poslovanja. U zaključku rada identificirane su preporuke za unapređenje kvalitete business transfer ekosistema Istočne Hrvatske.*

**Ključne riječi:** *mala i srednja poduzeća, prijenos poslovanja, business transfer ekosistem*

### 1. Introduction

In addition to start-up and company growth, business transfer represents the third critical stage of development in the life cycle of a company. The most common factor that encourages the initiation of the business transfer process is the company owners' age, but pressures from the external environment to implement internal changes and adjustment of the company to the challenges from the environment may also be an important factor, which may require new knowledge and skills at the management level.

A trend of business transfer processes that are not initiated by the retirement of the owner, but by a good opportunity to sell the company, owner's new interests or the desire to start a new business venture, is on the rise in developed countries. On the other hand, markets of developed countries record strong interest in takeover or purchase of existing companies, where people who decide to start and run their own entrepreneurial venture choose business takeover as a model for starting entrepreneurial activity. The described situation affects an increase in the supply of established companies whose owners are interested in selling them, and an increase in demand for takeover of already established companies. The intensity of the business transfer process is an increasingly important indicator of healthy dynamics in the economy (Singer et al., 2015).

## **2. Theoretical background**

### **2.1. Business transfer as a research topic**

Business transfer is a relatively new research topic that dates back to the 1980s, initiated by the researchers primarily focused on researching family entrepreneurship (e.g. Lansberg, 1988). In the context of family entrepreneurship, the issue of business transfer is particularly current in the processes of generational transfer where numerous researchers (e.g. Morris et al., 1997; Le Breton-Miller et al., 2004) indicate the critical importance of this stage of development of family businesses and the low level of success of family businesses in dealing with the challenges associated with business transfer.

Because of the recognized importance of the issue of business transfer for the development and sustainability of the small and medium enterprise sector in the European Union, European Commission has been issuing recommendations for improving legal, fiscal and administrative environment for companies undergoing business transfer to EU member states since 1994. European Commission expands this topic outside the framework of family entrepreneurship and indicates a tendency of increase in the number of business transfers to persons outside the family circle (Grant Thornton, 2005; CSES, 2013).

The issue of business transfer is primarily associated with aging entrepreneurs and the issue of sustainability of the company after the retirement of the owner. It is of great importance for national economies to ensure the sustainability of such companies and avoid the losses that may arise because of forced closure due to inability to find new owners (Singer et al., 2015). European Commission estimates that each year around 150,000 companies go through the business transfer unprepared, which brings into jeopardy around 600,000 jobs. The above indicates the importance of the business transfer issue at the micro level – for company sustainability, and at the macro level – for economic development and job preservation, which is confirmed by numerous studies (e.g. Van Teeffelen, 2012; Meijaard, 2007).

The importance of business transfer for business growth and development is recognized by authors who compared the performance of companies that are going through business transfer with that of start-up companies, and point out a significantly higher survival rate of those that have gone through business transfer (90-96%), in relation to start-up companies whose survival rate, depending on the economic conditions, is 35-50% (Geerts et al., 2004; KfW, 2009). Furthermore, transferred businesses have higher revenues and profits, they are more innovative and are achieving greater advances in new employment (Van Teeffelen, 2012; Meijaard, 2007). Business transfer represents a unique opportunity for strategic renewal of companies and, often necessary, transformation of the business (Varamaki et al., 2012; Teerikangas, 2012) to which younger entrepreneurs are more prone than those who are nearing retirement (e.g. Davidsson, 1989; Gray, 2004).

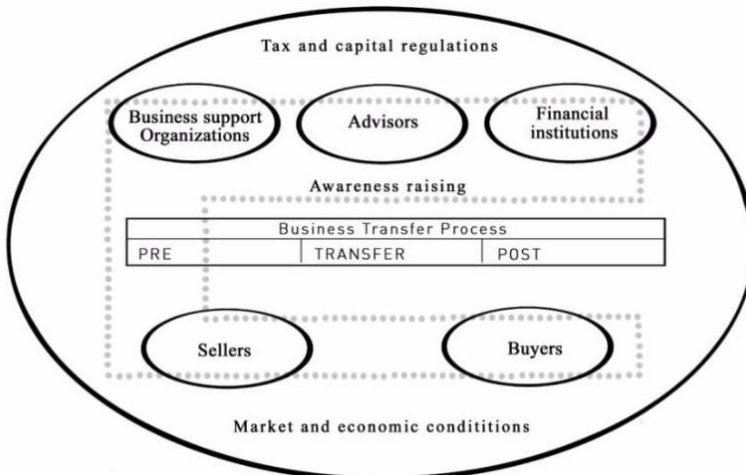
Studies that monitor the issue of business transfer indicate an increasing presence of selection of business transfer as an exit strategy by entrepreneurs before retirement, because of different circumstances, such as choosing other directions for career development, starting another entrepreneurial venture, desire to pursue other interests. In these cases, entrepreneurs decide on business transfer not under the pressure of age, but because of their personal choice.

Based on the foregoing, in the broader context, business transfer can be defined as „...change of ownership of any firm to another person or legal entity assuring the continuous existence and commercial activity of the enterprise when more than 50% of assets or shares are transferred“ (Van Teeffelen, 2010). The cited definition includes various contexts in which business transfer takes place, from the context of a family business, business transfer to external persons or companies, business transfer in the case of owners' retirement or selection of this exit strategy for some other reasons or interests.

## 2.2. Business transfer ecosystem

Ecosystem represents a dynamic concept that is characterized by a constant need for improvement, bearing in mind the integrity of the system and the interconnectedness of its key components (adapted according to Isenberg, 2010). The goal of ecosystem is to enable individual actors to expand their capabilities beyond their own boundaries through collaboration with other actors (Singer et al., 2015). When analysing actors and factors affecting business transfer processes, Van Teeffelen (2012) identifies the following as the main elements of the business transfer ecosystem: market and economic conditions, tax policy, buyers, sellers, financial institutions and advisors. Varamaki et al. (2014) have adapted Van Teeffelen's approach and added *awareness raising* and *business support organisations* to the original model of business transfer ecosystem (Figure 1).

*Figure 1 The key elements and content of the business transfer ecosystem*



Source: Varamaki, E.; Viljamaa, A.; Tall, J. and Lansiluoto, A. (2014), adapted from Van Teeffelen, Lex (2012)

Business transfer ecosystem is in the function of successful implementation of business transfer processes whose key actors are sellers (those for whom business transfer represents an exit strategy from the business) and buyers (those for whom business transfer is a way of starting entrepreneurial activity), while the purpose of the other components of the ecosystem is to provide support and increase the level of success of the process. Analysis of the presented business transfer ecosystem indicates a significant influence of government policy setting on all the components of the ecosystem. The market and economic situation and its impact on certain sectors greatly influences the number of firms coming to the market (Meijaard, 2006) as well as post-transfer performance (Van Teeffelen and Uhlener, 2010). Buyers and sellers often lack the necessary knowledge and experience to implement the business transfer process since it is most often a process they are facing once in a lifetime, especially in the case of aging entrepreneurs. The above indicates the importance of advisors in the business transfer ecosystem, whose role is to provide advisory support to buyers and sellers in solving organisational, financial, tax, legal and emotional issues (European Commission, 2011).

Financial institutions, banks in particular, have an important role in the business transfer ecosystem. A negative decision on financing of acquisitions, that is, purchase of companies is among the most frequently cited causes of failure in business transfer processes (European Commission, 2002). Tax policy can represent a significant aggravating circumstance for the implementation of business transfer which further emphasizes the importance of timely planning and preparation.

The report of the European Commission on the state of national business transfer ecosystems in EU member states from 2013, which included Croatia for the first time, provided a detailed assessment of the situation and identified guidelines of action for national line ministries and other relevant institutions for the creation of a support system in the business transfer process. Recommendations for the creation of supportive national business transfer ecosystems include: (1) launching campaigns aimed at raising awareness of owners of companies about the importance of timely preparation for the success of business transfer, and of everyone who should provide support in that process based on their profession; (2) simplifying the legislative framework and reducing the tax burden on business transfer; (3) creating virtual platforms for connecting sellers and buyers of companies; (4) creating financial instruments for easier accessibility of purchasing companies, and (5) strengthening the quality of advisory support in the business transfer process.

### 3. Actuality of the issue of business transfer in Eastern Croatia

In Croatia there is no statistical record of the conducted business transfers, nor there is an official definition or statistical record of the number of family businesses and their impact on the Croatian economy.

Statistical indicators in Croatia allow identification of the number of small and medium enterprises whose majority owners have 55 or more years of age, and according to this criterion represent a part of the small and medium enterprise sector that will be affected by the process of business transfer in the coming period. According to statistical indicators, in Croatia in 2013 there were 16,590 companies<sup>1</sup> (limited liability companies) whose majority owners have 55 or more years of age (*generation 55+*). These 16,590 companies employ 179,087 employees, which is a 16.1% share in the total number of people employed in limited liability companies, and generate revenue of HRK 115,715,452,383 (18.9% of the total revenue generated by all limited liability companies in Croatia).

Also evident in Eastern Croatia is the significant share of companies whose owners have 55 or more years of age in the total number of companies (1,412 companies, or 29%). Companies in majority ownership of *generation 55+* in Eastern Croatia have 19,039 employees (13%), and generate a share of 22% of total revenue (Table 1).

*Table 1 Number and share of companies whose majority owners have 55 and more years in counties of Eastern Croatia*

County	Number of companies whose owners have 55 and more years of age	Share of companies (55+) in the total number of companies in the county	Total number of employees in companies whose owners have 55 and more years of age	Share of companies (55+) in the total number of employees in the county	Total revenue generated by companies whose owners have 55 and more years of age (000 HRK)	Share of companies (55+) in the total revenue by counties
Brod-Posavina	285	32%	3,303	13%	1,598,011	22%
Osijek-Baranja	640	28%	9,044	14%	5,389,026	23%
Požega-Slavonia	112	32%	1,425	11%	662,825	20%
Virovitica-Podravina	137	30%	1,376	10%	682,534	18%
Vukovar-Srijem	238	29%	3,891	13%	2,132,993	22%
<b>Total Eastern Croatia</b>	<b>1,412</b>	<b>29%</b>	<b>19,039</b>	<b>13%</b>	<b>10,465,389</b>	<b>22%</b>

*Source: Business Transfer Barometer Croatia, CEPOR – SMEs and Entrepreneurship Policy Center, Zagreb, 2015*

<sup>1</sup>When identifying companies, those with minimum annual revenue of HRK 100,000 and at least one employed person were taken into consideration.

A deeper insight into the issue of business transfer in Croatia is provided by the Business Transfer Barometer Croatia research from 2015 whose objectives were 1) identification of the number of enterprises in Croatia, which, with regard to the age of the majority owner (55 years and older) and their attitude towards business transfer represent a risk group, 2) the way in which they plan to conduct business transfer, and 3) the need for support in that process<sup>2</sup>.

The research findings indicate that more than 5,300 companies in Croatia with around 57,000 employees represent a risk group whose owners underestimate the complexity and longevity of business transfer processes. The majority of companies, as many as 76% were founded in the 1990s, and 57% during the 1990-1994 period. The research has shown that 32% of company owners that belong to *generation 55+* are not aware of the inevitability of change of their role in the management and ownership role in the company. Business Transfer Barometer research in Croatia has shown that 22% of entrepreneurs underestimate the duration of the transfer process and believe that less than a year is enough time for the transfer to take place, while 50% believe that it would take 1-3 years. The research has also shown that 65% of company owners believe that their company will continue to operate after their withdrawal, 17% said that it will close, 6% believe that it will be sold, and 12% did not think about the future of the company after their withdrawal. Entrepreneurs aged 55 and more years believe that they will need support with various aspects related to the transfer of business, and expect help the most regarding technical implementation of business transfer (43%), company valuation (42%), and harmonization of company and family interests when making the decision on the transfer of business (36%).

Considering the geographical representativeness of the sample of the Business Transfer Barometer research, it is assumed that the identified research results reflect the structure of the issue of business transfer in the area of Eastern Croatia.

#### **4. Methodology**

For the purpose of research of content and quality of the business transfer ecosystem in Eastern Croatia, interviews with 20 representatives of institutions, which, according to their missions, constitute the components of the ecosystem were conducted: financial institutions, providers of advisory support, business support organisations, and potential sellers and buyers of companies. Interviews were conducted during 2015, based on a prepared checklist with questions that make up the outline of the interview. The methodology of iterative clinical interviews suggested by Schein (1993) was applied in the conducting of interviews, in which the researcher interacts with an internal member of the organisation in which the research is carried out and invests significant effort to clarify the purpose and significance of the research. In this way, respondents find benefits in the implementation of the research for themselves, organisation and environment in which they operate, and their motivation to contribute to the research process and results is increased. In this research, the respondents were informed about the results of Business Transfer Barometer research in Croatia, as well as recommendations of European Commission for development of business transfer ecosystem on EU countries.

Secondary research was used to analyse the activities aimed at promoting the importance of business transfer in Eastern Croatia, and general market and economic conditions, legislation, and tax system. Also used for the purposes of this research were the results of the situational analysis of

---

<sup>2</sup>Within the Business Transfer Barometer research in Croatia, 200 respondents, majority owners of small and medium companies in Croatia aged 55 or more years were surveyed. The sampling frame consisted of limited liability companies (Ltd.) with at least one employee and minimum annual revenue of HRK 100,000.00. The sample was representative by geographical criteria and by the enterprise size segment – micro, small and medium enterprises. The survey was conducted using CATI (telephone interview) and CAWI (on-line questionnaire) methods. The research was conducted by CEPOR – SMEs and Entrepreneurship Policy Center. Source: Alpeza, M., Grubisic, N., Mikrut, M.: “Business Transfer Barometer Croatia”, CEPOR, Zagreb, 2015.

the business transfer ecosystem in Croatia that was prepared within the EU project: BTAR – Business Transfer Awareness Raising<sup>3</sup>.

## 5. Research results - business transfer ecosystem of Eastern Croatia

The business transfer ecosystem of Eastern Croatia is presented through the following components: buyers and sellers, business support organisations, advisors, financial institutions, tax and capital regulations, market and economic conditions and awareness raising activities.

### Buyers and sellers

Because of non-existence of developed channels for matching buyers and sellers of companies, it is not possible to ascertain the number of owners of companies interested in selling, nor the number of potential buyers of companies in Eastern Croatia. For these reasons the European Commission (2013) emphasizes the importance of developing virtual platforms for buying and selling companies, and the development of advisors who provide support in the process. Potential sellers are sporadically asking for advice from business support institutions or law firms in Eastern Croatia, but the view of representatives of these organisations is that the issue of buying a company is still not actual enough among entrepreneurs who are planning to exit the business or start entrepreneurial activity. Sale of the company is considered to be a delicate issue among owners of companies, especially because of possible changes in relationships between employees, buyers and suppliers whom the information on the sale of the company could reach.

Based on the statistical data on the number of companies owned by members of the *generation 55+* in Eastern Croatia, it can be concluded that 1.412 companies represent potential sellers in the process of business transfer, and based on the position on the future of the company after their withdrawal, declared through the Business Transfer Barometer research, 85 companies (6%) are interested sellers of companies.

### Business support organisations

In Eastern Croatia, as well as in other parts of Croatia, there is a highly developed network of business support institutions, which consists of centres for entrepreneurship, regional development agencies, business incubators, Croatian Chamber of Economy, Croatian Chamber of Trades and Crafts, Croatian Employers' Association, offices for economy of local self-government units, etc. Business support institutions focus on providing general information related to registering entrepreneurial activity and assistance in applying for projects and filling documents for obtaining grant incentives. To a lesser extent, business support institutions have the capacity to provide specialised advice, and they focus their activities based on the decisions of the source of funding (usually local self-government), and less on the identified needs of entrepreneurs. Results of the conducted interviews indicate recognition of the issue of business transfer among owners of small and medium enterprises in respondents' private environment, and at the same time low incidence of formal inquires related to the issue of business transfer directed at organisations in which they operate.

### Advisors

Lawyers, M&A experts, tax advisors, accountants, brokers, etc. are important providers of specialised advisory assistance in the business transfer process. Availability of advisors of these profiles in Eastern Croatia is evident, but without additional specialisation in business transfer issues. Respondents cited non-existence of sufficiently frequent articulated demand for advisory

---

<sup>3</sup>The BTAR project is financed with the funds from the EU CIP programme in the 2014-2016 period. Project leader is the Seinäjoki University of Applied Sciences from Finland, and the project partners are Grenoble School of Management from France, Jaume I University from Spain, Faculty of Economics of the J.J. Strossmayer University of Osijek from Croatia and University of Skövde from Sweden.



assistance in that field as the reason for the lack of interest in specialisation in the field of business transfer. At the same time, advisors do not deem it necessary to develop their expertise and services based on indicators of the latent issue of business transfer of clients from the small and medium enterprise sector, and to work towards education and developing the need for services that they would provide as support in that process.

### **Financial institutions**

There are currently no financial institutions supporting the process of SME business transfer in Eastern Croatia. The financing instruments of banks and other financing institutions are – as well as in other parts of Croatia, primarily focused on financing start-ups or investment projects of already established companies.

The key government actors in financing SMEs in Croatia (Croatian Bank for Reconstruction and Development and Croatian Agency for SMEs, Innovations and Investments) have not developed financial sources and instruments which can be used in financing business transfers. As indicated during the research, those institutions have no intention of creating financial instruments for supporting business transfer in the near future, while commercial banks are offering only restructuring loans to their clients, and also are not considering the development of financial sources and instruments for business transfer at the moment.

### **Tax and capital regulations**

Tax and capital regulations can be stimulating or burdensome part of the business transfer ecosystem. Unlike some European countries where successors or buyers have to pay significant taxes related to transferring the business (e.g. Spain), tax and legal regulations do not represent a barrier for business transfer process in Croatia. Transferring the business to first blood relatives (children and spouse) is regulated by the Inheritance Act. Tax on inheritance and gifts are not paid by spouse, blood relative in a straight line, adopted children and adoptive parents of the deceased or the person giving the company. Inheritance of business shares is subject to taxation with tax rate of 5% which still doesn't represent a high tax burden.

In cases of selling the company the only compulsory expense is cost of notary services and seller gains by selling a company is considered as capital gain, and as such it not taxed in Croatia.

### **Market and economic conditions**

Croatia has been recording low economic activity for years, especially in the area of Eastern Croatia, where GDP per capita in 2012 was EUR 6.865<sup>4</sup>, while the unemployment rate in 2013 was 33.82%<sup>5</sup>

The biggest challenges for potential sellers and buyers of SMEs in Eastern Croatia related to market and economic conditions are in line with those identified in the situation analysis of the national business transfer ecosystem in Croatia, within the BTAR project: 1) long-term recession in Croatian economy without projections for more evident recovery in the next year; 2) low level of entrepreneurial activity in Croatia, as indicated by Global Entrepreneurship Monitor - GEM

---

<sup>4</sup>GDP in other regions, defined in accordance with the methodology of GEM research in Croatia: Zagreb and surroundings 15.438; Istria, Primorje and Gorski Kotar 12.931; Dalmatia 8.217; Northern Croatia 7.621; Lika and Banovina 7.899. For the purposes of the GEM project since 2003, Croatian counties are grouped into six regions, according to the criterion of geographical and historical understanding of the regional structure of Croatia: **Istria, Primorje and Gorski Kotar** – Istria County and Primorje-Gorski Kotar County; **Zagreb and surroundings** – City of Zagreb and Zagreb County; **Dalmatia** – Dubrovnik-Neretva County, Split-Dalmatia County, Šibenik-Knin County and Zadar County; **Northern Croatia** – Bjelovar-Bilogora County, Krapina-Zagorje County, Koprivnica-Križevci County, Međimurje County, Varaždin County and Virovitica-Podravina County; **Lika and Banovina** – Karlovac County, Lika-Senj County, Sisak-Moslavina County. Source: Small and Medium Enterprises' Report – 2015, CEPOR – SMEs and Entrepreneurship Policy Center, Zagreb, 2016.

<sup>5</sup>Rate of unemployment in other regions, defined in accordance with the methodology of GEM research in Croatia: Zagreb and surroundings 12.66%; Istria, Primorje and Gorski Kotar 15.19%; Dalmatia 25.53%; Northern Croatia 23.25%; Lika and Banovina 29.97%. Source: Small and Medium Enterprises' Report – 2015, CEPOR – SMEs and Entrepreneurship Policy Center, Zagreb, 2016.

research<sup>6</sup> 3) government support and attention focused almost exclusively on start-up entrepreneurs, and neglecting other phases of a venture's life cycle (growing phase as well as the phase of business takeovers as a potential for increasing economic activity and employment); 4) low level of trust among entrepreneurs; 5) lack of awareness among potential entrepreneurs about advantages and opportunities of becoming an entrepreneur through business takeover; 6) lack of established channels for finding a buyer for the company; 7) lack of professional consultancy support in the process of business transfer for micro and small firms; 8) lack of knowledge for valuation of the company among entrepreneurs, banks and professional consultants; 9) lack of financial instruments for buying the company.

### **Awareness raising activities**

The Faculty of Economics in Osijek, J.J. Strossmayer University of Osijek provides the obligatory course on family Business for students enrolled in the Graduate Programme in Entrepreneurship, where the challenges of business transfer in family businesses are included as a topic. In 2015 there were two seminars on business transfer challenges organised in Osijek, sponsored by the Ministry for Entrepreneurship and Crafts – one dedicated to entrepreneurs and the other focused on raising the capacity of the representatives of local business support organisations for providing advice and information related to business transfer to entrepreneurs. The seminars were initiated and implemented by CEPOR - SMEs and Entrepreneurship Policy Center from Zagreb. All other events promoting business transfer and family business issues are organised in Zagreb (Annual Conference on Family Business, organized by Lider – weekly business magazine; Family Business Club meetings, Family Business Forum and workshops organised by CEPOR – SMEs and Entrepreneurship Policy Center; seminars on the role of mediation in family business conflicts resolution, organised by Law & Mediation Office Cikac). There is no evidence on the activity of business support organisations from Eastern Croatia in the field of awareness raising activities related to SMEs business transfer.

## **6. Conclusions and implications**

Issues of Business transfer as a stage in development of small and medium enterprises with its complexity and riskiness has already been proven in developed Western European countries. In the context of the Croatian economy, business transfer represents an issue with which a significant number of owners of small and medium enterprises will be faced in the near future, for which many won't have a ready solution and answer. Given the important role that small and medium enterprises owned by the *generation 55+* have in the economy of Eastern Croatia (29% share in the total number of companies, 13% share in employment and 22% share in total revenue generated by companies), it is necessary to pay attention to the issues of business transfer and provide adequate support to business owners in that process, so as to ensure the survival of companies and jobs after their retirement.

In this paper, an analysis of the key components of the business transfer ecosystem in Eastern Croatia was conducted, with the following conclusions: 1) the only business transfer supportive segment of the ecosystem is the national legal framework, which enables tax-free business transfer process in case of inheriting the business from predecessors or selling / buying the company; 2) there is lack of specialized professional support for SME owners in business transfer process in all

---

<sup>6</sup>The results of GEM research in 2013 indicate low entrepreneurial activity in Eastern Croatia. Although entrepreneurial activity measured by the TEA index increased in 2013 in relation to 2012, Eastern Croatia with the index value of 6.77 is ranked second lowest in comparison to other regions of Croatia (Zagreb and surroundings 9.99; Istria, Primorje and Gorski Kotar 9.58; Dalmatia 10.71; Northern Croatia 3.83; Lika and Banovina 7.47). Source: Small and Medium Enterprises' Report – 2015, CEPOR – SMEs and Entrepreneurship Policy Center, Zagreb, 2016.

types of related service providers: M&A experts, lawyers, tax advisors and accountants; 3) there are no awareness raising activities focused on potential sellers or buyers and there is no understanding of the importance of business transfer issue and the negative impact that could be generated as a result of neglecting this issue; 4) there is lack of the of financial instruments coming from the local government for financing business takeover.

Further areas that need to be improved in business transfer ecosystem in Eastern Croatia are development of different kind of educational programs specifically designed for entrepreneurs, consultants, lawyers and all other stakeholders having an impact on the business transfer process, or being impacted by that process. Those educational programs should be tailored to special needs of participants. In addition, further development of business transfer awareness raising campaigns and specialised professional support and availability of professionals specialised in supporting micro and small enterprises in this process are of crucial importance.

The gaps and missing components in the regional business transfer ecosystem in Eastern Croatia are consistent and aligned with the low level of development of the national business transfer ecosystem in Croatia in general. Areas that are lacking, but should represent important initiatives for raising the quality of the business transfer ecosystem on the *national* level in Croatia are: development of an on-line platform for matching buyers and sellers of small businesses that would enable potential buyers and sellers to express their interests in buying or selling a company; development of data gathering and statistical monitoring of business transfers; development of financial instruments supporting business transfer; and development of support programs for SME business transfers coming directly from governmental support organisations.

## REFERENCES

Alpeza, M., Grubisic, N., Mikrut, M. (2015): *Business Transfer Barometer Croatia*, CEPOR – SMEs and Entrepreneurship Policy Center, Zagreb.

Davidsson, P. (1989): *Continued entrepreneurship and small firm growth*, Journal of Business Venturing, Vol. 4, No. 3, pp. 211-226.

European Commission (1994): *Commission Recommendation on the transfer of small and medium-sized enterprises*, Official Journal of the European Communities, pp. 14–17.

European Commission (2002): *Final report of the expert group on the transfer of small and medium sized enterprises*, Brussels.

European Commission (2011): *Business dynamics: start-ups, business transfers and bankruptcy*, Brussels.

European Commission (2013): *Entrepreneurship 2020 Action Plan Reigniting the entrepreneurial spirit in Europe*, Brussels.

Geerts, A., Herrings, W. and Peek, M. (2004): *Change of ownership creates new prospects in SME sector*, SME special 2004, ING, Amsterdam.

Gray, C. (2004): *Age effects on small firm growth and strategic objectives*, In The 34th efmD EISB Conference Abstracts Proceedings (pp. 8-10), Chicago

Grant Thornton (2005): *Grant Thornton International Business Owners Survey 2005*, The International Centre for Families in Business, University of Gloucestershire.

Isenberg, D. J. (2010): *How to start an entrepreneurial revolution*. Harvard Business Review, 88(6), pp. 40-50.

- KfW Research (2009): *KfW-Gründungsmonitor 2009*, Frankfurt am Main
- Lansberg, I. (1988): *The succession conspiracy*, Family Business Review, 1(2), pp. 119-143.
- Le Breton-Miller, I., Miller, D. and Steier, L.P. (2004): *Toward an integrative model of effective FOB succession*, Entrepreneurship Theory and Practice, 28(4), pp. 305-309.
- Meijaard, J. (2006): *Business transfers in the Netherlands*. in Snijders, J. and Y. Haane, Entrepreneurship in the Netherlands: Business transfer, a New Start, Ministry of Economic Affairs/EIM: Den Haag.
- Morris, M., Williams, R., Allen, J. and Avila, R. (1997): *Correlates of success in family business transitions*, Journal of Business Venturing, 12(5), pp. 385-401.
- Schein, E. H. (1993): *Legitimizing clinical research in the study of organizational culture*, Journal of counseling & development, 71(6), pp. 703-708.
- Singer, S., Viljamaa, A., Tall, J., Varamäki, E., Tornikoski, E., Durst, S., Blesa, A., Ripollés, M., Alpeza, M., Soler, J., Buffart M., Mezulic, P. (2015): *Business transfer ecosystems: From assumption-based to evidence-based design*, In: Entrepreneurship Society: a Platform for New Solutions to Old Problems. Paper presented at RENT XXIX, Research in entrepreneurship and small business, November 18-20, 2015, Zagreb, Croatia.
- Teerikangas, S. (2012): *Dynamics of acquired firm pre-acquisition employee reactions*. Journal of management, 38(2), pp. 599-639.
- Uhlaner, L., van Stel, A., Meijaard, J., & Folkeringa, M. (2007): *The relationship between knowledge management, innovation and firm performance: evidence from Dutch SMEs*, Scientific analysis of entrepreneurship and SMEs, pp. 1-26.
- Van Teeffelen, L., & Uhlaner, L. (2010): *Strategic renewal after ownership transfers in SMEs: do successors' actions pay off?*, International Journal of Entrepreneurial Venturing, 2(3-4), pp. 347-365.
- Van Teeffelen, L. (2010): *Exploring success and failure in small business ownership transfers*, Nyenrode Business Universiteit, Breukelen, the Netherlands.
- Van Teeffelen, L. (2012): *Avenues to improve success in SME business transfers: reflections on theories, research and policies*, Utrecht: Hogeschool Utrecht.
- Varamaki, E.; Viljamaa, A.; Tall, J. and Lansiluoto, A. (2014): *The Success of SME Business Transfers—Buyers' and Successors' Perspective*.
- Viljamaa, A., Tall, J., Varamäki, E., Singer, S., & Durst, S. (2015): *Business transfer ecosystems and awareness raising activities*, Seinäjoki University of Applied Sciences, Seinäjoki 2015.

**Andrea Arbula Blecich, PhD**

Faculty of economics, Rijeka

Postal address: Ivana Filipovića 4, 51000 Rijeka

Phone: 00385 51 355 117

E-mail address: aarbula@efri.hr

**Ivana Tomas Žiković, PhD**

Faculty of economics, Rijeka

Postal address: Ivana Filipovića 4, 51000 Rijeka

Phone: 00385 51 355 194

E-mail address: itomas@efri.hr

## **EVALUATION OF RELATIVE EFFICIENCY OF HIGHER EDUCATION INSTITUTIONS OF ECONOMIC ORIENTATION<sup>1</sup>**

### **VREDNOVANJE RELATIVNE EFIKASNOSTI VISOKOOBRAZOVNIH INSTITUCIJA EKONOMSKOG USMJERENJA**

#### **ABSTRACT**

*Higher education institutions worldwide are facing increasingly challenging demands regarding their efficiency. The increase of interest in higher education has led to public concerns on how efficiently funds for higher education institutions (HEIs) are being used. The purpose of this paper is to evaluate the relative efficiency of 31 higher education institutions of economic orientation in Croatia, Slovenia and Bosnia and Herzegovina for the year 2012. The analysis was carried out using Data Envelopment Analysis (DEA). The underlying premise of the research is that HEIs are not necessarily equally efficient in all areas of activity. To confirm this, four different models are tested. Three models evaluate the relative efficiency of the observed institutions within three fundamental areas of their activity: teaching, research and international activity, while the fourth model evaluates the relative efficiency of overall activity.*

*The empirical findings suggest that higher education institutions are not equally efficient in all areas of activity, which is why evaluation by individual areas is needed. If the evaluations were made aggregately, it would be possible for HEIs to compensate the less efficient results in one area with the more efficient results in other areas of activity. These actions could affect the results in the way that they are unfoundedly better than that obtained by individual approach.*

*The results of this paper can be used to improve the efficiency of higher education institutions. The institution position, relative to their peers, gives valuable information about its relative efficiency performance and leads to suggestions for improvement.*

**Key words:** *Relative efficiency, higher education institutions of economic orientation, data envelopment analysis*

---

<sup>1</sup> This work has been supported in part by the University of Rijeka under the project number 13.02.1.2.09. and in part by the Croatian Science Foundation under the project 6558 Business and Personal Insolvency – the Ways to Overcome Excessive Indebtedness.

## SAŽETAK

*Visokoobrazovne institucije diljem svijeta suočavaju se sa sve većim zahtjevima glede ostvarene razine njihove efikasnosti. Povećanje interesa za visoko obrazovanje dovelo je do sve većeg zanimanja javnosti o tome koliko visokoobrazovne institucije efikasno troše raspoloživa sredstva. U radu je vrednovana relativna efikasnost 31 visokoobrazovne institucije ekonomskog usmjerenja u Hrvatskoj, Sloveniji i Bosni i Hercegovini u 2012. godini. Vrednovanje je provedeno korištenjem analize omeđivanja podataka. Temeljna pretpostavka ovog istraživanja je da visokoobrazovne institucije nisu nužno jednako efikasne u svim područjima njihova djelovanja. Kako bi se to potvrdilo, postavljena su i testirana četiri različita empirijska modela za koja se utvrdio rezultat relativne efikasnosti visokoobrazovnih institucija ekonomskog usmjerenja. Tri modela vrednuju relativnu efikasnost promatranih institucija kroz tri temeljna područja njihova djelovanja (nastavna, znanstvena i međunarodna djelatnost), a četvrti model vrednuje relativnu efikasnost ukupnog poslovanja.*

*Rezultati istraživanja ukazuju na to da promatrane visokoobrazovne institucije u prosjeku nisu jednako efikasne u svakom području djelovanja. Ukoliko se umjesto segmentalnog pristupa, vrednovanje provodi agregatno (ne uzimajući u obzir različita područja djelatnosti), moguće je da se relativno efikasnijim rezultatima poslovanja jednog područja supstituiraju relativno manje efikasni rezultati drugog područja poslovanja visokoobrazovnih institucija. Spomenuto može dovesti do neopravdano boljih ukupnih rezultata u odnosu na rezultate ostvarene po pojedini segmentima. Zbog toga je vrednovanje po pojedinim područjima djelatnosti opravdano jer daje točniju sliku poslovanja.*

*Dobiveni rezultati mogu pozitivno utjecati na povećanje efikasnosti visokoobrazovnih institucija ekonomskog usmjerenja. Informacija o poziciji pojedine institucije u odnosu na sebi slične pruža vrijednu informaciju o ostvarenoj relativnoj efikasnosti temeljem čega se predlažu mjere za potencijalna poboljšanja*

**Ključne riječi:** *efikasnost, visokoobrazovne institucije ekonomskog usmjerenja, analiza omeđivanja podataka*

### 1. Introduction

Efficient use of public resources is required in order to reduce unnecessary costs as well as to make the best use of the available inputs. Education is one of the key areas of interest in each nation's economy. The reason for this is that the quality of labor force depends on the quality of education. Higher education is mostly financed from governmental funds. Therefore, HEIs are subject to increasing pressure for using the available funds as efficient as possible.

The hypothesis of this research is that HEIs are not equally efficient in all areas of their activities. To confirm this, the paper aims to evaluate the relative efficiency of higher education institutions of economic orientations by individual areas of activities (teaching, research and international activities) as well as their overall activity. The subjects of evaluation are 31 public and private higher education institutions of economic orientation (faculties, departments in universities, departments in polytechnic and private colleges) from Croatia, Slovenia and Bosnia and Herzegovina. In order to evaluate the relative efficiency of the selected higher education institutions, data envelopment analysis (DEA) is used.

The research results provide insight into the achieved relative efficiency of observed institutions according to the specific areas of their activities as well as to the overall activity.

## **2. Efficiency evaluation in higher education**

Efficiency is a term that gives information on how many outputs are realized with the given inputs. The goal is to use minimal inputs to get as much output as possible, i.e. to optimize the use of inputs. The optimal values of inputs and outputs are actually the values that a company, an institution or country can make employing its full potential. If the subject is capable of doing that, it is considered efficient. Measuring efficiency in the public sector is often considered to be more complex because of the lack of income as evaluation criteria. In institutions of higher education the problem is that they use many inputs to produce (deliver) many outputs. Also, the outputs are often qualitative in nature which further complicates the evaluation process.

Webster, Kennedy and Johnson (1998) pointed out the existence of a large number of different types of efficiencies as well as their interconnection. Economic efficiency is considered to be the top level of efficiency. When evaluating the relative efficiency with DEA, the technical efficiency is assessed, a subgroup of economic efficiency. Nunamaker (1985) defines it as a measure or possibility of a DMU to produce maximal outputs with the given inputs or to produce the given outputs with minimal inputs.

Evaluation of relative efficiency of higher education is in the literature focus for many years. In doing so, one of most frequently used methods is DEA, which is based on the assessment of the efficiency frontier. Most of the studies on this topic are carried out in the UK and USA. Although the evaluation of higher education institutions in Croatia is still a relatively new, recent years have seen a significant increase of scientific interest in this field.

## **3. Methodology**

For purpose of this research, Data envelopment analysis (DEA) is used. DEA is a non-parametric method based on linear programming for evaluating the relative efficiency. DEA measures and compares relative efficiencies of individual decision-making units (DMUs) in a set of comparable DMUs. The observed data is enveloped in order to determine the best practice frontier. DEA was initially developed by Charnes, Cooper and Rhodes (1978). It is originally designed to evaluate the relative efficiency in the public sector and nonprofit subjects where the level of profit does not separate good from poor business. It has been recognized as a suitable tool for evaluation analysis in education. DEA calculates the ratio between weighted inputs and weighted outputs for each DMU. If the relative efficiency of an individual DMU is equal to one ( $\varphi_k = 1$ ), the DMU is considered efficient, otherwise it is considered inefficient

The original model presented by Charnes, Cooper and Rhodes (1978) assumed input orientation (realization of the given output(s) using minimal input(s)) and constant returns to scale (CRS). CRS implies that the increase in input(s) result in a proportional increase in output(s). Based on this research, Banker, Charnes and Cooper (1984) significantly improved the original methodology by presenting variable returns to scale (VRS). VRS implies that the increase in input(s) does not necessarily result in a proportional increase in output(s). They also presented the output orientation of the model (realization of maximum output(s) using the given input(s)). When using DEA, the orientation (input or output) should be chosen in accordance with the DMUs objectives that are being

evaluated. In higher education, output orientation is traditionally used since cost (input) minimization cannot be made under market conditions.

In this study the VRS model with output orientation is chosen (more in section 5) because it is not possible to assume that returns to scale are constant. The VRS output-oriented model can be formulated as follows (Oscan, 2009):

$$\begin{aligned}
 & \text{Maximize } \phi_k - \varepsilon \left( \sum_{i=1}^m s_i^- + \sum_{r=1}^s s_r^+ \right) \text{ supposing that} \\
 & \sum_{r=1}^n \lambda_j x_{ij} + s_i^- = x_{ik} \quad \text{for } i=1, \dots, m \\
 & \sum_{j=1}^n \lambda_j y_{rj} - s_r^+ = \phi_k y_{rk} \quad \text{for } r=1, \dots, s \\
 & \sum_{j=1}^n \lambda_j = 1 \quad \text{where } 0 \leq \lambda_j \leq 1 \quad \text{for } j=1, \dots, n
 \end{aligned} \tag{3.1}$$

where  $m$  stands for the number of inputs and  $s$  for the number of outputs.  $x_{ik}$  represents the sum of  $i$  inputs and  $y_{rk}$  the sum of  $r$  outputs of the  $k$ -th production unit.  $\lambda_j$  represents the weighted values, while  $s_i^-$  and  $s_r^+$  stands for the input and the output slacks (the superscript minus indicates an output reduction and the superscript plus an output augmentation).  $\phi_k$  represents the relative efficiency and the DMU is considered to be efficient if  $\phi_k = 1$ .

DEA is a commonly used tool because it can handle multiple inputs and multiple outputs. Inputs and outputs can be expressed with different units. DEA measures relative, not absolute, efficiency which means that DMUs are compared to each other. This is at the same time pointed out both as an advantage and as a disadvantage. DMUs that are found to be relatively efficient are used as benchmark for the inefficient ones. In this way, inefficient DMUs can find real, attainable role models. On the other hand, the results do not offer information on the absolute efficiency. The limitations of DEA are the potential sensitiveness of the results on the selected inputs and outputs. Also, large numbers of inputs and outputs with regard to the number of DMUs can limit the discriminatory power of DEA. Most of the limitations can be overcome by selecting only the fundamental variables (inputs and outputs) in the evaluation process.

## 4. Empirical model

### 4.1. Sample selection

The research includes private and public higher education institutions of economic orientation having one of the following affiliations: faculties, university departments, departments in polytechnic or private colleges. An additional requirement for selecting a DMU is a degree in social sciences, in the field of economy, i.e. institutions were required to perform at least undergraduate study levels. The observed year is 2012, and for sample selection, a minimum of 3 to 4 years are taken, which corresponds to the necessary period for completion of undergraduate studies. Taking into account the above criteria, 31 DMUs qualify in Croatia, 10 in Slovenia and 21 in Bosnia and Herzegovina. The paper evaluates 21 HEIs in Croatia (71% of total population), 7 HEIs in Slovenia (70% of total



population) and 2 HEIs in Bosnia and Herzegovina (9,5% of total population). The sample, although small in number, due to the above reasons, is considered to be representative.

The selection of the areas of activity is based on the Bologna declaration and the European Standards and Guidelines for Quality Assurance (ESG). Three areas of activity are identified, teaching (the primary activity in higher education institutions), research (besides teaching, the key area of activity in higher education) and international activity (this is a new area of activity which is becoming crucial for the international recognisability of institutions).

#### 4.2. Selection of variables

For evaluation of relative efficiency with data envelopment analysis, the selection of variables (inputs and outputs) is a complex and difficult part of the analysis. The reason for that lies in the fact that the selected variables should describe the observed process in the best possible way. Therefore it is necessary to find variables that will provide complete information of relative efficiency in the evaluation process. When defining inputs and outputs it is important to take care about the correlation between them. The correlations have to be positive. The correlation among inputs and the correlation among outputs has to be lower than 0.4, while the correlation between inputs and outputs has to be higher than 0.8. When defining the inputs and outputs, care must be taken on the number of evaluated DMUs, which should be at least 3 times the sum of variables (inputs and outputs). With regard to the above, the following inputs and outputs are chosen for teaching, research and international activity.

*Table 1 Variables according to the area of activity*

Activity		Variables	Explanation of selected inputs and outputs
Teaching activity (TA)	Inputs	Number of academic staff (ACSTAFF)	This variable includes all the staff involved in the teaching process and is the most important input in the teaching process (Abbott, Doucauliagos (2003), Johnes, 2006, Agasisti, Pérez-Esparrells (2010), Abd Aziz Mohd Janor, Mahadi (2013), Liu, Tsai (2014)).
		Total expenses excluding expenses for employees (EXPE)	There is high correlation between the two inputs: "expenses for employees" and "number of academic staff". Since the operating expenses are important for the performance of the teaching activity, the input is chosen as "total expenses excluding expenses for employees" (Coelli (1996), McMillan, Datta (1998), Abbott, Doucauliagos (2003). This variable is expressed in Croatian currency (HRK).
	Output	Number of graduates (GRAD)	This variable includes students who graduated at undergraduate or graduate level and it is a typical output of higher education (Abd Aziz Mohd Janor, Mahadi (2013), Sagarra, Agasisti, Mar Molinero (2014)).
Research activity (RA)	Inputs	Number of academic staff (ACSTAFF)	Since usually the same staff is involved in the process of teaching and research, this input is common for both activities.
		Number of scientific projects (SCPROJ)	This variable refers to national and international projects performed by the institution. Given that the aim of the projects is to produce scientific publications, this variable is used as an input of research activity.
	Output	Number of scientific publications (SCPUB)	This variable is considered to be the most important output of research activity. (García-Aracil, Palomares-Montero (2008), Sagarra, Agasisti, Mar Molinero (2014))

<b>International activity (IA)</b>	Input	Number of agreements with other institutions (AGREE)	Nowadays, mobility is one of the key factors of quality in higher education institutions. This variable represents the number of signed bilateral and multilateral agreements whose output is the number of incoming and outgoing students and academic staff.
	Outputs	Student mobility (STMOB)	Refers to the number of outgoing students to other institutions and the number of incoming students to the observed institution. The students' exchange time is disregarded due to lack of data.
		Mobility of academic staff (ACMOB)	Refers to the number of academic staff who visited other institutions or came to the observed institution. The time spent on exchange is disregarded due to lack of data.
<b>Overall activity (OA)</b>	Inputs	Number of academic staff (ACSTUFF)	
		Total expenses excluding expenses for employees (EXPE)	
		Number of agreements with other institutions (AGREE)	
	Outputs	Number of graduates (GRAD)	
		Mobility (MOB)	Total mobility (STMOB + ACMOB)
		Number of scientific publications (SCPUB)	

Source: Authors

## 5. Results and discussion

The evaluation of relative efficiency of HEIs of economic orientation was carried out for the data collected in 2012, i.e. 2011-2012 academic year. In this research the software package DEA Solver Pro 11.0 is used. The necessary data for inputs and outputs were collected through author's questionnaire, from the Croatian Ministry of Finance, the Amadeus database, Fin info portal, reports of the expert committee ASHE on re-accreditation of higher education institutions, self-evaluation of institutions, i.e. internal evaluation reports, the strategy of higher education institutions, the work plan of higher education institutions, CROSB database, SICRIS database and official websites of the observed subjects

Before measuring the relative efficiency, the choice must be made between models: CCR - (Charnes, Cooper and Rhodes) or BCC (Banker, Charnes and Cooper), as well as its orientation (input or output). The CCR model is used if the returns to scale are constant while the BCC model is used if the returns to scale are variable. To choose the proper model, the analysis is carried out with both. After that, comparing the results, it is possible to determine if the returns to scale are constant or variable. The model orientation is chosen based on goals of the observed DMUs. Since higher education institutions aim to maximize the available resources to produce maximum outputs, the output oriented model is used (Arbula, 2012; Aristovnik, 2011a, b; Johnes, Bradley, Little, 2012).

**Table 2** Relative efficiency results with CCR and BCC models with output orientation for teaching, research, international and overall activity

	TA		RA		IA		OA	
	CCR	BCC	CCR	BCC	CCR	BCC	CCR	BCC
<b>Efficient</b>	1	6	4	7	2	5	11	16
<b>Inefficie</b>	30	25	27	24	29	26	20	15
<b>Average</b>	0,4244	0,5958	0,4956	0,5351	0,2847	0,4358	0,7672	0,8051

	TA		RA		IA		OA	
	CCR	BCC	CCR	BCC	CCR	BCC	CCR	BCC
<b>Max</b>	1	1	1	1	1	1	1	1
<b>Min</b>	0,0724	0,0767	0,0001	0,0001	0,0001	0,0001	0,3026	0,2327

Source: Authors

The results of relative efficiency of 31 higher education institutions of economic orientation obtained by CCR and BCC output oriented models show significant difference in the number of efficient ( $\varphi_k = 1$ ) DMUs in all of the evaluated areas of activities. This indicates that there is a variable returns to scale, which suggests using the BCC model.

Values from the previous table reveal high inconsistency in results between different areas of activities which can be explained that HEIs are not equally efficient in each area of activity. The overall activity recorded the highest average scores compared to individual areas of activity which can be explained by HEIs substituting relatively less efficient results in one area of activity with relatively more efficient results in other areas of activity. Consequently, the evaluation of individual areas of activity is not only justified, but also necessary. This kind of approach provides valuable information on HEI activities. The results of relative efficiency in teaching, research, international and overall activity, as well as the ranks of the individual DMUs, are given in the table below.

**Table 3** Relative efficiency of higher education institutions of economic orientation by area of activity

DMU	TA	Rank	RA	Rank	IA	Rank	OA	Rank
DMU1	0,9154	11	0,4535	15	0,2534	20	1	1
DMU2	1	1	0,4573	14	0,1976	22	1	1
DMU3	0,4322	19	0,5985	12	0,3321	18	0,815	18
DMU4	1	1	1	1	0,8148	7	1	1
DMU5	0,9469	10	0,3392	23	0,1893	23	1	1
DMU6	0,2262	25	1	1	0,1845	24	0,493	29
DMU7	0,0767	31	0,3616	22	0,1023	27	0,361	30
DMU8	0,2204	26	0,2281	24	0,0001	31	0,549	24
DMU9	0,3434	22	0,1944	25	0,0824	28	0,497	28
DMU10	0,3328	23	0,4722	13	0,392	13	0,856	17
DMU11	0,2103	27	0,0001	31	0,269	19	0,314	31
DMU12	0,7067	13	0,4058	19	0,6622	8	1	1
DMU13	0,4743	18	0,4516	16	0,0383	29	0,527	26
DMU14	0,2684	24	0,0002	30	0,467	12	0,621	22
DMU15	0,9999	7	0,0921	29	1	1	1	1
DMU16	1	1	1	1	0,3819	14	1	1
DMU17	1	1	1	1	0,2045	21	1	1
DMU18	0,6798	14	0,8701	10	0,3777	15	1	1
DMU19	1	1	0,0942	28	0,0255	30	1	1
DMU20	0,996	8	0,758	11	1	1	1	1
DMU21	0,5258	17	0,1667	26	0,3624	16	0,577	23
DMU22	0,5568	16	0,1389	27	0,9073	6	1	1
DMU23	0,9591	9	0,9909	8	0,4827	11	1	1
DMU24	0,3597	20	1	1	0,4868	10	0,764	20
DMU25	0,7943	12	0,8808	9	1	1	1	1
DMU26	0,1819	29	0,3669	21	0,3421	17	0,547	25
DMU27	0,1883	28	1	1	1	1	1	1
DMU28	0,3449	21	0,3813	20	0,1397	26	0,524	27
DMU29	1	1	1	1	0,6594	9	1	1

DMU	TA	Rank	RA	Rank	IA	Rank	OA	Rank
DMU30	0,151	30	0,445	17	0,1553	25	0,711	21
DMU31	0,5787	15	0,4402	18	1	1	0,796	19

Source: Authors

The results of the relative efficiency for each DMU by different areas of activity indicate that there is no DMU that is relative efficient in all of the evaluated areas of activity ( $\exists \varphi_k \text{ } i < 1; i = \text{TA, RA, IA}$ ). Also, some DMUs that are evaluated as relative inefficient ( $\varphi_k < 1$ ) in all of the individual areas of activity, are evaluated as relative efficient ( $\varphi_k = 1$ ) in the overall activity. This is because the new combination of variables creates a new frontier of relative efficiency that envelopes more DMUs. The obtained results create a whole new perspective on the relative efficiency evaluation of complex organizations like higher education institutions. Therefore, in order to obtain complete information about the relative efficiency of higher education institutions it is necessary to evaluate different areas of activity separately.

## 6. Conclusion

Higher education is one of the strategic objectives of each nation economy. It is mostly financed by the government budget, i.e. taxpayers' money. It is therefore necessary that taxpayers have insight into what their money is invested and whether these funds are used efficiently. Due to the economic crisis, national economies are facing strong pressure that investments result in the best possible effects. Therefore, it is necessary to measure the efficiency of the higher education system with the aim to separate the efficient business (or part of it) from the inefficient one. In this way, it would be possible to apply the appropriate measures for improving the results.

The hypothesis of the study is that HEIs are not equally efficient in all areas of their activities. To confirm this, three different areas of activities (teaching, research and international activity) as well as overall activity of 31 higher education institutions of economic orientation from Croatia, Slovenia and Bosnia and Herzegovina are evaluated. The results suggest that the evaluated higher education institutions are not equally efficient in all of the areas of activities, which justifies the segmental approach. If evaluation is made only for the overall activity, it can affect the results in the way that they appear unjustifiable better than the results obtained by the segmental approach.

The research results can positively affect the efficiency of individual higher education institutions. The results, beside the relative position of institutions compared to their peers, are able to point out the more and the less efficient areas of activity for each institution. This allows choosing the directions for their improvement.

## REFERENCES

- Abbott, M, Doucouliagos, C. (2003): **The efficiency of Australian universities: a data envelopment analysis**, Economics of Education Review, 22(1): 89-97.
- Abd Aziz, N.A., Mohd Janor, R.M., Mahadi, R. (2013): **Comparative Departmental Efficiency Analysis within a University: A DEA Approach**, Procedia - Social and Behavioral Sciences, 90(10): 540-548.

- Agasisti, T., Pérez-Esparrells, C. (2010): **Comparing efficiency in a cross-country perspective: the case of Italian and Spanish state universities**, Higher Education, 59(1), 85-103.
- Arbula, A. (2012): **Using Data Envelopment Analysis to Evaluate the Efficiency of Higher Education Expenditure in Europe**, Journal of International Scientific Publications: Economy & Business. 6: 59-69.
- Aristovnik, A. (2011a): **An analysis of the efficiency of education spending in central and eastern Europe**, Knowledge as Business Opportunity: Proceedings of the Management, Knowledge and Learning International Conference 2011: 277-286, dostupno na: <http://www.issbs.si/press/ISBN/978-961-92486-3-8/papers/ML11-31.pdf> (5.07.2012)
- Aristovnik, A. (2011b): **Technical Efficiency of Public Education And R&D Expenditures in Selected EU and OECD Countries: A Non-Parametric Analysis**, Proceedings of 8th International Conference «Economic Integration, Competition and Cooperation», 6-9 April, Opatija, University of Rijeka – Faculty of Economics
- Banker, R. D., Charnes, A., Cooper, W.W. (1984): **Some models for estimating technical and scale inefficiencies in data envelopment analysis**, Management Science, 30(9): 1078–1092.
- Charnes, A, Cooper, W.W., Rhodes, E (1978): **Measuring the efficiency of decision making units**, European Journal of Operational Research, 2(6): 429-444.
- Coelli, T. J. (1996): **Assessing the Performance of Australian Universities using Data Envelopment Analysis**, Australia, Centre for Efficiency and Productivity Analysis, University of New England
- García-Aracil, A., Palomares-Montero, D. (2008): **Evaluation of Spanish Universities: Efficiency, Technology and Productivity Change**, Paper presented in the Prime-Latin America Conference at Mexico City, September 24-26th 2008.
- Johnes, J. (2006): **Data envelopment analysis and its application to the measurement of efficiency in higher education**, Economics of Education Review, 25(3): 273–288
- Johnes, J., Bradley, S., Little, A. (2012): **Efficiency in the Further Education Sector in England**, Open Journal of Statistics, 2(1): 131-140.
- Liu, C.-Y. A., Tsai, C.-C. K. (2014): **Evaluation on Higher Education Using Data Envelopment Analysis**, International Journal of Management Excellence, 4(2): 522-528
- McMillan, M. L., Datta, D. (1998): **The Relative Efficiencies of Canadian Universities: A DEA Perspective**, Canadian Public Policy – Analyse de politiques, 24(4): 485-511.
- Nunamaker, T.R. (1985): **Using Data Envelopment Analysis to Measure the Efficiency of Non-Profit Organisations: A Critical Evaluation**. Managerial and Decision Economics, 6(1): 50-58.
- Ozcan, Y.A. (2008): **Health care benchmarking and performance evaluation: an assessment using data envelopment analysis (DEA)**, Springer, New York.

Sagarra, M., Agasisti, T., Mar Molinero, C. (2014): **Exploring the efficiency of Mexican universities: integrating Data Envelopment Analysis and Multidimensional Scaling**, SSRN, [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2511321](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2511321) (accessed 4 June 2015)

Webster, R., Kennedy, R., Johnson, L. (1998): **Comparing Techniques for Measuring the Efficiency and Productivity of Australian Private Hospitals**, Working Papers in Econometrics and Applied Statistics, Australian Bureau of Statistics, No. 98/3

**Goran Becker, MSc.**  
Croatian Agency for SMEs, Innovations and Investments  
E-mail: Goran.Becker@hamagbicro.hr

**Tanja Broz, PhD.**  
The Institute of Economics, Zagreb  
E-mail: tbroz@eizg.hr

**Tomislav Ridzak, PhD.**  
Croatian National Bank  
E-mail: Tomislav.Ridzak@hnb.hr

## **IMPACT OF STATE GUARANTEES ON TRENDS IN SMALL AND MEDIUM-SIZED ENTERPRISES IN EASTERN CROATIA**

### **UTJECAJ DRŽAVNIH JAMSTAVA NA KRETANJA U MALOM I SREDNJEM PODUZETNIŠTVU U ISTOČNOJ HRVATSKOJ**

#### **ABSTRACT**

*Credit guarantee schemes have become a popular instrument for policy makers. They are aimed at increasing access to lending, especially for small and medium-sized enterprises, because the absence of adequate collateral is often high barrier for viable project to get funded. However, little has been known about the effectiveness of these schemes. Hence, the question whether public guarantees are justified for the purpose of SME's facilitated access to finance is the topic of many economic discussions.*

*A challenging task for many companies is exactly the access to finance. However, these financing constraints tend to be more difficult for SMEs to overcome than for larger firms (OECD, 2012). SMEs face less access to debt capital they need, especially in the start-up phase, to further operation and growth (Riding and Haines, 2001). Credit guarantee schemes can be seen as filling this gap, since they are aimed at the SME sector, by simultaneously cushioning their risks and enhancing the credit approval from business banks (Levitsky, 1997). In fact, the restrictions posed by business banks in evaluation of SMEs are primarily a high risk exposure, insufficient entrepreneurial capitalization and inadequate collaterals, which all represent a weight in the SMEs' start-up and growth phase.*

*The main purpose of this article is to investigate whether state-funded guarantee schemes impact the firm performance in terms of job creation and sales by facilitating the access to finance. The analysis has a regional approach, focusing on developments in eastern Croatia.*

*Results show that companies that received guarantees perform better than the Croatian average in terms of employment and sales growth. However, more analysis is needed, especially analysis focused on the activated guarantees. Data on activation could change our results significantly.*

**Key words:** *Guarantee schemes, SMEs, employment growth, facilitated access to finance, eastern Croatia*

## SAŽETAK

*Jamstvene sheme su postale popularan instrument za nositelje ekonomske politike. Budući da je nedostatak kolateralna često velika barijera za financiranje projekata, one su usmjerene prema olakšavanju pristupa financiranju, pogotovo za mala i srednja poduzeća. Međutim, malo se zna o učinkovitosti takvih shema. Stoga je pitanje opravdanosti jamstvenih shema koje financira država tema mnogih ekonomskih rasprava.*

*Značajan izazov za mnoga poduzeća jest upravo pristup financiranju. Međutim, financijska ograničenja teže pogađaju mala i srednja poduzeća od velikih poduzeća (OECD, 2012.). Mala i srednja poduzeća imaju otežan pristup kapitalu kako bi unaprijedila poslovanje i imala prilike za rast, pogotovo u početnoj fazi poslovanja (Riding i Haines, 2001.). Budući da su namijenjene sektoru malih i srednjih poduzeća, jamstvene sheme mogu popuniti tu prazninu, ublažavajući njihove rizike i pospješujući odobravanje kredita kod poslovnih banaka (Levitsky, 1997.). Zapravo, ograničenja koja navode poslovne banke u evaluaciji malih i srednjih poduzeća prvenstveno su visok stupanj rizika, nedostatna kapitaliziranost poduzetnika i neadekvatni instrumenti osiguranja, što sve predstavlja opterećenje kod pokretanja i rasta malih i srednjih poduzeća.*

*Glavna svrha ovog članka jest istražiti utječu li jamstvene sheme koje financira država na rezultate tvrtki u smislu otvaranja radnih mjesta i povećanja ukupnih prihoda. Analiza ima regionalni pristup s posebnim naglaskom na kretanja u istočnoj Hrvatskoj.*

*Rezultati pokazuju da tvrtke koje su dobile jamstva imaju bolje rezultate od hrvatskog prosjeka u smislu zapošljavanja i rasta ukupnih prihoda. Međutim, dodatna analiza je potrebna, posebno analiza usmjerena prema aktiviranim jamstvima, kako bi se dobila jasnija slika o utjecaju jamstava na razvoj tvrtki. Podaci o aktiviranim jamstvima mogli bi značajno promijeniti naše rezultate.*

***Ključne riječi:*** jamstvene sheme, mala i srednja poduzeća, rast zaposlenosti, olakšani pristup financiranju, istočna Hrvatska

### 1. Introduction

Credit guarantee schemes have become a popular instrument for policy makers. They are aimed at increasing access to lending, especially for small and medium-sized enterprises (SME), because the absence of adequate collateral is often important barrier for viable project to get funded. However, little has been known about the effectiveness of these schemes.

If we look back in history, the first credit guarantee schemes were created in Europe in 1848 as mutual guarantee associations - groups of entrepreneurs contributed their own funds to provide credit guarantees for each other (Deelen and Molenaar, 2004). After the mid-20<sup>th</sup> century, many state-supported guarantee schemes were established, especially in Europe and transition economies. Still, many credit guarantee schemes were donor-driven with the aim to ease access to finance to small and medium-sized entrepreneurs.

Today public credit guarantees schemes are the most often type of credit guarantees. However, in the case of public supported credit guarantee schemes, one could raise the question what is the benefit and justification for their existence, because many public supported credit guarantee funds operate with very low fee or no fee at all, causing the serious cost impact on the state budget and tax payers.<sup>1</sup> In this regard, are there any good arguments for using public funds?

---

<sup>1</sup> Of course, some of guarantee funds are self-sustainable because they operate on cost recovery system based on fee payment policy.



There are several arguments for the existence of public credit guarantees schemes. Although overall liquidity conditions in the banking sector may be satisfactory, small and medium-sized enterprises often have limited access to finance. The reason is that micro and small enterprises are perceived as high risk borrowers. While many small and medium enterprises are creditworthy, they cannot offer adequate collaterals or track records. Therefore, public credit guarantee schemes are for banks welcomed risk sharing instruments that enable small and medium enterprises to get funded.

At the same time, small and medium enterprises are well known to be one of the strong contributors to economic growth and employment. Small and medium-sized enterprises account for 60 to 70 per cent of jobs in most countries, with a particularly large share in Italy and Japan (OECD, 1997). The ratio in Croatia is not an exception, small and medium enterprises hold 68 per cent of all employees in 2013 (CEPOR, 2014).

Besides reducing the risks and easing access to finance, the main aim of public credit guarantee schemes is to enable discounted costs of finance. This is primarily achieved by using first call guarantees, which enable quick funds retrieval for the banks in the case of default. In addition to that, publicly supported guarantee funds and agencies often have more attractive fee policy for guarantee issuance compared to the financial sector.

Another driving force in favour of public credit guarantees lies in the fact that they are related to the government, state budget and country credit rating. In this regard they result in the mitigating risks for borrowers by providing a credit risk enhancement.

However, from the government perspective, if procedures for recovering losses are not well implemented (in terms of commitment of the client to repay a loan), public credit guarantees schemes may be the source of moral hazard and subsequently fail to achieve the desired goal, which is to ease access to finance for promising enterprises.

In order to achieve desired goal of improving access to finance, the trust between guarantee institution and bank is crucial. To achieve this goal, guarantee funds have to allocate necessary resources, like deposits, to pay out if the loan defaults. In the case of Croatia, resources for loan default payments are allocated in the state budget, in the Ministry of entrepreneurship and crafts. This avoids the creation of dedicated guarantee fund and issues with its management, rather making guarantees activity as one of the core businesses of the Croatian Agency for SMEs, Innovations and Investments (HAMAG).

Croatia, like other European countries, has the interest to support small and medium-sized enterprises. The Croatian model of easing access to finance followed the example of the European transition economies where public credit guarantee schemes aim at supporting the development of small and medium-sized enterprises and are aimed at improving the entrepreneurship. Therefore, in 1994 the Croatian Agency for small and medium enterprises was founded with its core business based on issuing guarantees to small and medium enterprises. Guarantees were issued using ex-post method, where credit institution first evaluates the loan application and finally approves loan in principle, with the recommendation to apply for a credit guarantee. The ex-ante method was used since 2013, where applicants presented applications first to the guarantee institution. This public credit guarantee scheme was implemented in partnership with the European Investment Fund under the Competitiveness and Innovation Framework Program of the European Union and it provided support to small and medium-sized enterprises operating up to two years.

Despite the fact that public credit guarantees exist for years in Croatia, there is no microeconomic evidence about the effects of such policies. Hence this research aims at shedding the light on the efficiency of credit guarantee schemes in Croatia, with special emphasis on the eastern Croatia.

Remaining of the article is organised as follows. Next section briefly discusses the literature on the credit guarantee schemes, third section describes data and empirical strategy, while fourth section brings the results of the analysis. Finally, last section concludes.

## 2. Brief literature survey

Challenging access to finance for SMEs is well documented. In their seminal paper Stiglitz and Weiss (1981) show that when banks cannot differentiate between good and bad borrowers, they rather ration credit than increase the interest rate in order to avoid adverse selection. The reason for this is that, beside interest rates that banks receive, they are also concerned with the riskiness of the loan, since the banks' expected return depends on the probability of returning the loan. Hence, since it is difficult for a bank to distinguish between good and bad borrowers in the world with imperfect information, even some good borrowers do not receive loan. Green (2003) emphasised four reasons why access to finance is a large obstacle to development and growth of SMEs in both developed and emerging economies: high administrative costs, asymmetric information, high risk perception and lack of collateral. Beck and Demirgüç-Kunt (2006), who summarised empirical literature on problem of access to finance for SMEs, show that improving institutions and business environment is effective way to relax credit constraints. Recent study by Ayyagari et al (2016) emphasised missing credit bureaus as one of the constraints to access to finance for SMEs. On the other hand, some authors argue that the impact of monetary policy tightening and other shocks faced by the banking sector cause challenges for SMEs' access to bank loans (such as Kroszner, Laeven and Klingebiel 2007, Dell'Ariccia, Detragiache and Rajan 2008 and Khwaja and Mian 2008).

Could the problem of access to finance for SMEs be alleviated by public credit guarantee scheme? Previous experiences indicate the justification of guarantee schemes existence, especially in times of recession or crisis. OECD (2013), Bertay, Demirgüç-Kunt and Huizinga (2012) and Kramer (2012), among others, argue that state-owned institutions provide more stability for financing during business cycle downturns. Beck, Klapper and Mendoza (2008) analyse credit guarantee schemes across 46 developed and developing countries and find that government is important actor in funding and management, but its role in risk assessment and recovery is not much emphasised. The authors argue that the government's less important role in risk assessment and recovery should not be seen as an obstacle, since the data show that where the government is involved in credit risk assessment, default rates are typically higher. Green (2003) argues that well-implemented credit guarantee schemes have the impact on SMEs access to finance. Cowan, Drexler and Yañez (2015) analyse the US data and find that credit guarantees are effective in increasing aggregate amount of credit to SMEs. Similar results are, among others, delivered by Cowling (2010) for the UK, Lelarge, Sraer and Thesmar (2010) for France, Zecchini and Ventura (2009) for Italy and Uesugi, Sakai and Yamashiro (2006) and Uesugi (2008) for Japan.

However, the situation is a bit different in emerging European countries. Vienna Initiative Working Group on Credit Guarantee Schemes (2014) finds that supply of credit guarantees in this region is bellow demand due to less developed financial systems and credit guarantee schemes that are not well-established. Since they argue that credit guarantee schemes are important vehicle in delivering access to finance to SMEs, Vienna Initiative Working Group on Credit Guarantee Schemes (2014) advocates further development of public support in order to increase availability of credit guarantees.

However, the controversy remains about the efficiency and desirability of state interventions. Udell (2015) highlighted top 10 unresolved issues in SME finance and one of them is whether government guarantee programs work. La Porta, Lopez-de-Silanes and Shleifer (2002) argue that state-owned financial institutions allocate resources inefficiently and doubt whether government interventions can be welfare improving. Innes (1991) argues that state guarantees are generally

inefficient because encourage firms to overinvest. De Meza (2002) fears that government intervention in lending may draw in lower quality firms and thus reduce efficiency. Green (2003) summaries critiques of the credit guarantee schemes and points that critics question cost-effectiveness of such schemes and that they do not see sufficient reasons for government intervention in the credit market because market failures are not often at the core of the justifications for the scheme. On the other hand, recent study by Andrianova, Demetriades and Shortlandet (2012) suggest that state intervention can be efficient and that it is associated with the higher long-run growth rates. Lelarge, Sraer and Thesmar (2010) investigate the effects of the French credit guarantee program using a large firm-level data set. They find that guarantee program has a significant impact on the development of the newly created firms. More precisely, firms that have obtained a loan guarantee tend to grow faster. However, Lelarge, Sraer and Thesmar (2010) results also show that those firms also have a higher probability of default, which means that risk shifting might be a drawback of such credit guarantees. Riding and Haines (2001) analyse the impact of credit guarantees on employment and default rates SME sector in Canada. They concluded that credit guarantees are efficient for job creation, but also that default rates, which are higher for newer firms, increase with the amount of funds borrowed. Suryani (2015) analyses credit guarantees to SMEs in Indonesia and argues that credit guarantees have the positive impact on sales and profit, but the impact on employment is not significant. Ylhäinen (2013) studies subsidized loans granted to manufacturing SMEs in Finland and finds that firms that received subsidized loans expand their operations by making more investments, grow faster and hire more employees than the nonsubsidized firms.

To conclude, empirical evidence on the impact of state guarantees and other forms of government interventions in the credit market remains mixed and thus further research is needed to be able to offer straightforward policy recommendations.

### **3. Data and empirical strategy**

Analysis in this article is conducted using data on credit guarantees that HAMAG grants to SME sector, as well as data on company financials and demographics from 2005 until 2014. More precisely, dataset includes 1.233 credit guarantees issued to firms. However, in the analysis on the link between guarantees and firm development we were able to include only firms with credit guarantee for which we have financial statements data as well as the number of employees during the analysed period. The firm characteristic of interest, beside the number of employees, includes total sales. Data for eastern Croatia, which includes counties of Brod-Posavina, Osijek-Baranja, Požega-Slavonia and Vukovar-Srijem, are analysed separately.

In order to investigate whether the number of employees and sales increased after the guaranteed loan has been issued, we compared the level of variables of interest in the year when the guarantee has been issued and one and two years after.<sup>2</sup>

### **4. Results**

Table 1 gives information about the amount of credit guarantees issued in total in Croatia and in eastern Croatia. Formally, there are many credit guarantees programs, but Table 1 aggregates them in main categories.

The most important guarantee program is agriculture. More than third of issued guarantees in Croatia are allocated to agriculture related activities. Program for growth and development is also important with about fifth of issued guarantees. Significant portion of guarantees is also aimed at

---

<sup>2</sup> If the guarantee has been issued in the second half of the year, we assumed that the guarantee was issued in the next year, in order to allow time for guaranteed loan to have the effect on company's development.

providing working capital and liquidity support (13.4 per cent). On the other hand, guarantees for new entrepreneurs and investments account for less than 10 per cent each and even more concerning is very low share of program aimed at facilitating innovations.

Even though eastern Croatia accounts for 11.2 per cent of Croatian GDP and 16.8 per cent of population, firms from eastern Croatia obtained 21.5 per cent of total amount of credit guarantees in Croatia. In eastern Croatia, expectedly, the most important program is agriculture, which accounts for more than half of the total credit guarantees issued to firms in eastern Croatia. Program for growth and development is also relatively important with the share of 14.5 per cent in total guarantees issued in eastern Croatia, while other programs are of minor importance with participation lower than 10 per cent.

The share of guarantee program issued in eastern Croatia in total amount of the program issued in Croatia shows that eastern Croatia is the most important part of Croatia for guarantees in agriculture related activities. Eastern Croatia managed to withdraw almost 40 per cent of total credit guarantees in program agriculture and 22 per cent in agricultural program that is financed through IPARD. Eastern Croatia is also important for programs for areas of special state interest, where it managed to withdraw 32.2 per cent of total amount issued for this purpose.

**Table 1** Credit guarantees in total in Croatia and in eastern Croatia in the period 2005-2014

Guarantee program	Credit guarantee (HRK)		The share of guarantee program in total guarantees (in %)		The share of guarantee program issued in eastern Croatia in total amount of the program issued in Croatia (in %)
	Croatia total	Eastern Croatia	Croatia total	Eastern Croatia	
Agriculture	457,292,338	178,685,026	26.9	49.0	39.1
Agriculture IPARD	127,592,546	28,058,015	7.5	7.7	22.0
Growth and development	358,697,028	53,090,576	21.1	14.5	14.8
Liquidity and working capital	183,143,217	24,500,208	10.8	6.7	13.4
New entrepreneurs	169,072,881	15,592,421	9.9	4.3	9.2
Investments	148,384,594	11,629,902	8.7	3.2	7.8
Innovations	60,730,723	10,289,213	3.6	2.8	16.9
Areas of special state interest	57,875,220	18,660,735	3.4	5.1	32.2
Leasing	14,003,696	668,576	0.8	0.2	4.8
Other	122,723,784	23,851,451	7.2	6.5	19.4
<b>Total</b>	<b>1,699,516,026</b>	<b>365,026,122</b>	<b>100.0</b>	<b>100.0</b>	<b>21.5</b>

Source: HAMAG

Tables 2 and 3 give descriptive statistics of the data on guarantees and firm development. Table 2 shows performance of firms that have received credit guarantee and for which we have company data one year after, while Table 3 shows performance of firms that have received credit guarantee and for which we have company data two consecutive years after the credit guarantee has been issued. It would also be interesting to track firms that have received credit guarantee for a longer period of time in order to monitor financial and employment developments, but we are limited by the length of time dimension of the dataset. Adding additional year in duration implies losing data points and moving the last year more in to the past. For example, if the credit guarantee was issued in 2013, we can currently track it only for one year and it will appear in Table 2, but this observation will be missing from the Table 3, because we do not have company data for 2015, i.e. two years after the credit guarantee was issued.

*Table 2 Main indicators one year after the credit guarantee has been issued*

	<b>Croatia (total)</b>	<b>Eastern Croatia</b>
<b>The number of credit guarantees issued in the sample</b>	489	100
<b>The number of employees in firms that have received credit guarantee</b>	8,864	1,547
<b>Total sales in firms that have received credit guarantee (in HRK)</b>	4,642,805,770	950,839,611
<b>Distribution of credit guarantees</b>		
<b>Median of credit guarantee (in HRK)</b>	1,197,462	1,641,440
<b>Minimum of credit guarantee (in HRK)</b>	40,000	40,000
<b>Maximum of credit guarantee (in HRK)</b>	10,200,546	7,247,000
<b>Increase in</b>		
<b>Sales</b>	15.59%	14.55%
<b>Employment</b>	5.95%	4.59%
<b>Sales per 1 HRK of credit guarantee (in HRK)</b>	0.95	0.76
<b>Credit guarantee per a new employee</b>	1,453,285	2,569,851

*Note: This table includes guarantees issued until 2013 in order to be able to track performance one year after the guarantee had been issued, as company financials are available until 2014.*

*Source: HAMAG, Poslovna Hrvatska and FINA*

The total number of credit guarantees issued in the analysed period 2005 – 2013 is 1,233, while the total value is 1,474.8 million HRK. From the total number of issued credit guarantees we were able to match 489 credit guarantees or 39.7 per cent with the firm data (total sales and the number of employees) one year after the credit guarantee has been issued and 277 credit guarantees or 22.5 per cent two consecutive years after guarantee issuance. In terms of the total value of credit guarantees, we were able to cover 51.9 per cent (53.6 per cent for eastern Croatia) of the total amount of issued guarantees one year after guarantee issuance and 32.6 per cent (33.8 per cent for eastern Croatia) two years after the issuance.

Median issued credit guarantee in Croatia amounts to 1.2 million HRK (Table 2), while median guarantee in eastern Croatia is higher and amounts to 1.6 million HRK which can mostly be linked to larger number of agricultural guarantee programs which are in large part intended for investments in to equipment for agricultural use.

The primary purpose of guarantees issued by HAMAG is to increase sales and employment so it is interesting to see how our sample fares in that respect. Firms that have received credit guaranteed loans increased sales in the next year by 15.6 (Table 2), while the corresponding increase for all Croatian companies is on average 2.3 per cent (Table 4). Employment also increased, by 5.6 per cent, with respective increase for all Croatian companies of 0.3 per cent in the same period. However, even though median firm in eastern Croatia received larger credit guarantee, the increase in sales and employment in subsidised firms in eastern Croatia is below average. This can again be linked to the nature of investments. First, the majority of investments are in long term agricultural projects so possible increase in sales and employment might come at latter date. Second, many investments were intended for machinery purchase, which by definition partly substitute labour force.

**Table 3** Main indicators two years after the credit guarantee has been issued

	<b>Croatia (total)</b>	<b>Eastern Croatia</b>
<b>The number of credit guarantees issued in the sample</b>	277	64
<b>The number of employees in firms that have received credit guarantee</b>	4,678	793
<b>Total sales in firms that have received credit guarantee (in HRK)</b>	2,517,198,577	571,209,264
<b>Distribution of credit guarantees</b>		
<b>Median of credit guarantee (in HRK)</b>	1,379,996	1,497,626
<b>Minimum of credit guarantee (in HRK)</b>	63,000	105,000
<b>Maximum of credit guarantee (in HRK)</b>	10,200,546	7,247,000
<b>Increase in</b>		
<b>Sales</b>	13.27%	19.17%
<b>Employment</b>	6.39%	9.96%
<b>Sales per 1 HRK of credit guarantee (in HRK)</b>	0.69 kn	0.95 kn
<b>Credit guarantee per a new employee</b>	1,609,827	1,455,796

*Note: This table includes guarantees issued until 2012 in order to be able to track performance two years after the guarantee had been issued, as company financials are available until 2014.*

*Source: HAMAG, Poslovna Hrvatska and FINA*

Two years after the credit guarantee has been issued sales increased on average by 13.3 per cent for the treated companies relative to the base year (Table 3), which compares to average 3.5 per cent sales growth for all Croatian companies (Table 4). Increase in employment is 6.4 per cent, compared to flat (-0.1 per cent) for all Croatian companies.

Unlike one year after the credit guarantee had been issued, the guarantees are more effective on a two year horizon for eastern Croatia. In numbers, sales and employment increased by 19.2 and 10 per cent, respectively, in comparison with the base year.

Further, related to the goal of increase in employment by firms with guarantees, the data shows that on average 1.5 HRK million of guarantees is needed in Croatia for increasing employment by one employee in the following year. The corresponding number in eastern Croatia is 2.6 HRK million (again if we look one year ahead timeframe). In a bit longer time period (2 years after the guarantee was issued), the cost for one new workplace in guarantee supported companies is 1.6 HRK million on average in Croatia and 1.5 HRK million on average in a subset of eastern Croatian counties. The fall in cost of new workplace for Slavonian counties is most probably due to higher share of agriculture linked investments that are more long term in nature and require more time to produce returns and new jobs – for example, bringing up a vineyard is a several years long process – from planting to first harvest.

*Table 4 Number of employees and total sales in Croatia (2005-2013)*

	2005	2006	2007	2008	2009	2010	2011	2012	2013	Overall Average
<b>Croatia total</b>										
Number of employees	813,762	865,883	896,013	933,958	889,396	859,808	851,386	829,874	830,928	
Total sales	523,712	593,140	655,561	709,827	613,367	598,187	624,807	610,376	612,441	
<b>One year rate of change</b>										
Number of employees		6.4%	3.5%	4.2%	-4.8%	-3.3%	-1.0%	-2.5%	0.1%	<b>0.3%</b>
Total sales		13.3%	10.5%	8.3%	-13.6%	-2.5%	4.5%	-2.3%	0.3%	<b>2.3%</b>
<b>Two years rate of change</b>										
Number of employees			10.1%	7.9%	-0.7%	-7.9%	-4.3%	-3.5%	-2.4%	<b>-0.1%</b>
Total sales			25.2%	19.7%	-6.4%	-15.7%	1.9%	2.0%	-2.0%	<b>3.5%</b>

*Source: FINA Financial results of enterprises*

The presented analysis shows preliminary results on effects of state guarantees issued by HAMAG. However, in order to fully grasp the impact of proactive government measures and to have definite conclusion about its impact more analysis is needed. First, analysis conducted so far is descriptive: we compare firms to the total sample of Croatian firms. This causes bias, as the structure of total sample might not be similar to our sample in terms of size, firm industry and other firm characteristics. The bias is also induced by the nature of the issued guarantees: firms that are in better financial position are more likely to apply for guaranteed loans, as there are criteria to be fulfilled prior to guarantee is granted. This means that we are comparing relatively better companies with the Croatian average. Matching or similar technique should be used in order to formally address these issues.

Finally, some of the issued guarantees are activated or might become activated. This can be issue especially for long term loans for agriculture that include grace period up to 5 years with repayment period up to 14 years. This means that after the grace period ends, some of these investments might become unviable due to high repayment burden. Also, in the period since the guarantee has been issued significant changes might occur in the product market – for example significant change in price of crops. Hence, in order to fully grasp the effects of guarantees data on activation of the guarantees should compliment these preliminary results.

## 5. Conclusion

In this article we investigated trends in small and medium-sized firms that have received guaranteed loans. Analysis of sales and employment one and two years after the credit guarantee had been issued shows increase both in sales and employment, relative to the base period and to the Croatian average.

Eastern Croatia managed to withdraw more than 20 per cent of total amount of issued guarantees, which is more than its share in Croatian GDP and population. Sales and employment increased also in firms that have received credit guarantee in eastern Croatia one and two years after the guarantee issuance, but results are more pronounced two years after the guaranteed loan, which is not

surprising due to the nature of majority of investments in that area. Even though the goal of increasing employment is achieved, the price is relatively high: in the sample of firms one year after the credit guarantee issuance 2.6 million HRK is needed to employ one new worker, while in the smaller sample of firms two years after the credit guarantee issuance 1.5 million HRK is needed.

However, even though results for sales and employment sound encouraging, more analysis is needed, especially analysis focused on the activated guarantees, in order to fully understand the impact of credit guarantees on firms' development.

## REFERENCES

Andrianova, S., Demetriades, P. and Shortlandet, A. (2012): *Government Ownership of Banks, Institutions and Economic Growth*, *Economica*, Vol. 79, pp. 449-469

Ayyagari, M., Juarros, P., Soledad Martinez Peria, M. and Singh, S. (2016): *Access to Finance and Job Growth: Firm-Level Evidence across Developing Countries*, World Bank Policy Research Working Paper, No. 6704

Beck, T. and Demircuc-Kunt, A. (2006): *Small and medium-size enterprises: Access to finance as a growth constraint*, *Journal of Banking and Finance*, Vol. 30, pp. 2931–2943

Beck, T., Klapper, L. F. and Mendoza, J. C. (2008): *The Typology of Partial Credit Guarantee Funds around the World*, World Bank Policy Research Working Paper, No. 4771

Bertay, A. C, Demirgüç-Kunt, A. and Huizinga, H. (2012): *Bank Ownership and Credit over the Business Cycle: Is Lending by State Banks Less Procyclical?* World Bank Policy Research Working Paper, No. 6110

CEPOR (2014), *Small and Medium Enterprises Report – Croatia 2014*, <http://www.cepor.hr/wp-content/uploads/2015/03/Cepor-godisnje-izvjesce-ENG-web-2014.pdf> (accessed 15 March 2016)

Cowan, K., Drexler, A. and Yañez, Á (2015): *The effect of credit guarantees on credit availability and delinquency rates*, *Journal of Banking and Finance*, Vol. 59 (C), pp. 98-110

Cowling, M. (2010): *The role of loan guarantee schemes in alleviating credit rationing in the UK*, *Journal of Financial Stability*, Vol. 6, No. 1, pp. 36-44

Deelen, L. and Molenaar, K. (2004): *Guarantee Funds for Small Entreprises - A manual for guarantee fund managers*, ILO, Geneva

Dell'Araccia, G., Detragiache, E. and Rajan, R. (2008): *The real effect of banking crises*, *Journal of Financial Intermediation*, Vol. 17, pp. 89–112

Green, A. (2003): *Credit Guarantee Schemes for Small Enterprises: An Effective Instrument to Promote Private Sector-Led Growth?* UNIDO SME Technical Working Papers Series, No. 10

Hughes, A. (1997): *Finance for SMEs: A U.K. Perspective*, *Small Business Economics*, Vol. 9, No. 2, pp. 151-168

Innes, R. (1991): *Investment and government intervention in credit markets when there is asymmetric information*, *Journal of Public Economics*, Vol. 46, pp. 347-381



- Khawaja, A. I. and Mian, A. (2008): *Tracing the Impact of Bank Liquidity Shocks: Evidence from an Emerging Market*, American Economic Review, Vol. 98, No. 4, pp 1413-42
- Kramer, D. (2012): *Credit Guarantee Schemes for Small Businesses: between Euphoria and Scepticism*, [http://www.diss.fu-berlin.de/diss/servlets/MCRFileNodeServlet/FUDISS\\_derivate\\_000000014497/2013.12.06\\_Diss\\_Kramer\\_ENDGxLTIG\\_ONLINE.pdf;jsessionid=C88B16B36C592F324D0BD9AD10F2D683?hosts=](http://www.diss.fu-berlin.de/diss/servlets/MCRFileNodeServlet/FUDISS_derivate_000000014497/2013.12.06_Diss_Kramer_ENDGxLTIG_ONLINE.pdf;jsessionid=C88B16B36C592F324D0BD9AD10F2D683?hosts=) (accessed 15 March 2016)
- Kroszner, R., Laeven, L. and Klingebiel, D. (2007): *Banking crises, financial dependence, and growth*, Journal of Financial Economics, Vol. 84, pp. 187-228
- La Porta, R., Lopez-de-Silanes, F. and Shleifer, A. (2002): *Government Ownership of Banks*, Journal of Finance, Vol. 57, No. 1, pp. 265-301
- Lelarge, C., Sraer, D. and Thesmar, D. (2010): *Entrepreneurship and Credit Constraints Evidence from a French Loan Guarantee Program*, in Lerner, J. and Schoar, A., ed: International Differences in Entrepreneurship, University of Chicago Press, Chicago, pp. 243-273
- Micco, A., Panizza, U. and Yanez, M. (2007): *Bank ownership and performance. Does politics matter?* Journal of Banking and Finance, Vol. 31, pp. 219-241
- OECD (1997): *Small Business, Job Creation and Growth: Facts, Obstacles and Best Practices*, <https://www.oecd.org/cfe/smes/2090740.pdf> (accessed 15 March 2016)
- OECD (2012): *Facilitating access to finance, Discussion Paper on Credit Guarantee*, <http://www.oecd.org/globalrelations/45324327.pdf> (accessed 15 March 2016)
- OECD (2013): *SME and Entrepreneurship Financing: The Role of Credit Guarantee Schemes and Mutual Guarantee Societies in supporting finance for small and medium-sized enterprises*, [http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=CFE/SME\(2012\)1/FINAL&docLanguage=En](http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=CFE/SME(2012)1/FINAL&docLanguage=En) (accessed 15 March 2016)
- Riding, A. L. and Haines, G. (2001): *Loan guarantees: Costs of default and benefits to small firms*, Journal of Business Venturing, Vol. 16, pp. 595–612
- Stiglitz, J. and Weiss, A. (1981): *Credit Rationing in Markets with Imperfect Information*, American Economic Review, Vol. 71, No. 3, pp. 393-410
- Suryani, E. (2015): *Effectiveness of state-owned credit guarantee corporation in Indonesia: cost and benefits to small and micro enterprises*, International Journal of Economics and Research, Vol. 6, No. 5, pp. 42-56
- Udell, G. (2015): *SME Access to Intermediated Credit: What Do We Know and What Don't We Know?* in: Small Business Conditions and Finance, Proceedings, Reserve Bank of Australia, October 19-20, 2015, pp.61-109
- Uesugi, I. (2008): *Efficiency of Credit Allocation and Effectiveness of Government Credit Guarantees: Evidence from Japanese Small Businesses*, Bank of Japan Working Paper Series, No. 08-E-2
- Uesugi, I., Sakai, K. and Yamashiro, G. (2006): *Effectiveness of Credit Guarantees in the Japanese Loan Market*, RIETI Discussion Paper Series, No. 06-E-004

Vienna Initiative Working Group on Credit Guarantee Schemes (2014): *Credit Guarantee Schemes for SME lending in Central, Eastern and South-Eastern Europe*, [http://www.eib.org/attachments/efs/viwg\\_credit\\_guarantee\\_schemes\\_report\\_en.pdf](http://www.eib.org/attachments/efs/viwg_credit_guarantee_schemes_report_en.pdf) (accessed 15 March 2016)

Ylhäinen, I. (2013): *Essays on the Economics of Small Business Finance*, [https://jyx.jyu.fi/dspace/bitstream/handle/123456789/41890/978-951-39-5305-8\\_vaitos08082013.pdf?sequence=1](https://jyx.jyu.fi/dspace/bitstream/handle/123456789/41890/978-951-39-5305-8_vaitos08082013.pdf?sequence=1) (accessed 15 March 2016)

Zecchini, S. and Ventura, M. (2009): *The impact of public guarantees on credit to SMEs*, Small Business Economics, Vol. 32, pp. 191-206

**Ivana Bujan, M.A.**

Polytechnic of Međimurje Čakovec

40 000 Čakovec

Phone: + 385 95 2 333 002

E-mail address: ibujan@mev.hr

**Branka Crnković-Stumpf, Ph.D.**

Faculty of Economics Rijeka

51 000 Rijeka

Phone: +385 (0)51 355 138

E-mail address: branka@efri.hr

**PERFORMANCE ANALYSIS OF SMALL FAMILY HOTELS****MJERENJE USPJEŠNOSTI MALIH OBITELJSKIH HOTELA****ABSTRACT**

*This paper analyzes financial performance measures of small family hotels (SFH). The empirical goal of this paper is to operationalize capital structure and performance measures of SFH which was fulfilled with a given variables used in research models. Performance measures used in this paper are average growth rates for five-year period – from 2010 to 2014, average net profit growth rate and average sales revenue growth rate. Descriptive analysis of performance measures and capital structure measures shows significant deviations regarding minimal and maximal values in the sample consisting of 120 SFH. Two hypotheses set in the paper were confirmed with multiple linear regression and by constructing two empirical models. Empirical results imply that owner's knowledge on financing set as equity-to-assets ratio significantly positively influences average net profit growth rate which was confirmed in model 1. Furthermore, owner's knowledge on financing set as debt-to-equity ratio significantly positively influences average sales revenue growth rate which was confirmed in model 2. According to the research presented in this paper, implications for further research are given which suggest international comparative analysis and deeper and more extensive study of non-financial performance measures.*

**Key words:** *small family hotels, performance measures, multiple linear regression, entrepreneurial knowledge, capital structure*

**SAŽETAK**

*U ovome radu dan je prikaz financijskih pokazatelja uspješnosti malih obiteljskih hotela (MOH). Empirijski cilj rada je operacionalizacija strukture kapitala i mjera uspješnosti MOH, a koji je ispunjen prikazom varijabli koje su korištene u modelima istraživanja. Pokazatelji uspješnosti koji se predlažu u ovom radu su prosječna stopa rasta dobiti nakon oporezivanja i prihoda od prodaje za razdoblje od 2010. do 2014. Deskriptivna analiza pokazatelja uspješnosti i pokazatelja strukture kapitala upućuje na jaka odstupanja najmanjih i najvećih vrijednosti među jedinicama uzorka koji se sastoji od 120 MOH. U radu su postavljene dvije hipoteze koje su potvrđene metodom multiple linearne regresije i konstrukcijom dva empirijska modela. Rezultati upućuju da vlasnikovo znanje o financiranju mjereno pokazateljem vlastitog financiranja pozitivno značajno utječe na prosječnu stopu rasta dobiti nakon oporezivanja, a što je potvrđeno modelom 1. Nadalje, vlasnikovo znanje o financiranju mjereno koeficijentom financiranja pozitivno značajno utječe na prosječnu stopu rasta prihoda od prodaje, a što je potvrđeno modelom 2. Temeljem provedenog istraživanja u završnom*

*dijelu rada dane su implikacije za daljnja istraživanja u kojima se sugerira komparativno istraživanje u odnosu na druge zemlje te ekstenzivnija analiza u području nefinancijskih mjera uspješnosti poslovanja.*

**Ključne riječi:** mali obiteljski hoteli, mjere uspješnosti, multipla linearna regresija, poduzetničko znanje, struktura kapitala

## **1. Introduction**

Development of tourism and tourist traffic has been generating numerous new opportunities for family businesses in recent years. Some of the characteristics of small family businesses in the tourism sector are family atmosphere, personalized access to guest and high quality services, while the family business is often the only source of generating revenues for the whole family. The tourism sector is quite a broad term and encompasses many different types of business activities and thus different types of family businesses. Some of the business activities are accommodation, hospitality, various types of sports, recreational and cultural activities. This paper analyzes small family hotels (SFH) as one of possible business types in tourism. For the purposes of determining the survey sample, the accounting criteria and characteristics of the family were used. The accounting criteria presumes the number of employees, asset value, annual income, while family characteristics presume that the owner is a close or distant relative to one and/or more persons who work and/or are employed in a SFH with the maximum of 50 accommodation units. SFH classification criteria was set according to available relevant definitions in various publications (Austrian Institute for SME Research, CEPOR, European Consumer Centers' Network) with adjustments for Croatian businesses. Empirical objective of the paper refers to the operationalization of capital structure and performance measures of SFH. Other objectives refer to the review of relevant literature and analysis of performance measures and capital structure of SFH. In the first part of the paper, characteristics of SFH will be determined, where theoretical framework for small family businesses in tourism research will be analyzed. Furthermore, overview of performance measures specific for SFH will be given with comparative analysis of financial and non-financial measures. Upon literature review, hypotheses of the paper and research questions will be set followed by empirical part of the paper where research data, research methods and main results will be analyzed. The final part of the paper gives conclusion and implications for further research.

## **2. Characteristics of small family hotels**

Tourism and hospitality industry challenge families in many different ways with seasonality as a special issue, which strongly influences cash flows. As it was mentioned earlier, one of characteristics of small family businesses in tourism is personalized access to a guest but it is also important to mention disadvantages like long working hours and violence of family privacy due to interconnections between private living area and family accommodation (Getz, Carlsen, Morrison, 2004; Getz, Carlsen, 2005,3). Moreover, SFH among other family businesses in tourism define destination and influence to the development of destination, therefore if they are marginalized in terms of profitability and sustainability, destination development is questioned. Croatia possesses a great potential for development of SFH, for which the demand is constantly increasing. SFH make up about a share of 10% in total beds compared to large hotel systems and make up about a share of 12% in total number of accommodation units in Croatia (Aflić, Priskić, 2013, 332).

### **2.1. Theoretical framework as a basis for small family businesses in tourism research**

There is a lack of research analyzing SFH, apropos small family businesses in tourism in Croatia, but also at the global level. Consequently, theoretical discussions and empirical analysis on

entrepreneurship, family interrelations and performance measures are also lacking (Cruz, Justo, de Castro, 2008). Studies analyzing family businesses in tourism industry rely on theories that are not directly designed for that field but can serve as a good basis for future theoretical and practical advances - resource theory, the capital structure theories, principal-agent theory and entrepreneurial theory of the firm. One of the most applicable theory is the resource-based theory, which describes the company as a unique set of resources that are complex, intangible, dynamic and since family businesses are extremely complex and dynamic subjects, the resource-based theory makes a good conceptual framework for the creation of theoretical and empirical studies and models. Specific knowledge of an owner/entrepreneur is considered a key strategic asset of a business and is positively correlated with financial and non-financial performance measures of a business due to specificities of transfer, copy and rarity (Cabrera-Suárez, De Saá-Pérez and García-Almeida, 2001).

## **2.2. Performance measures**

Financial and non-financial indicators that are increasingly gaining in importance determine the success of family businesses in the tourism industry. Although many studies in the recent years focus on quantification of non-financial measures of family business, financial measures are still very often used. The possible disadvantages of non-financial performance measures can be impartiality or subjectivity of a research unit, quantification difficulties and underdevelopment of qualitative research instruments where a space is opened for further research analyzing qualitative performance measures.

Performance measures that are usually used in hotel industry are operational success measures like revenue per available room (RevPAR), total revenue per available room (TRevPAR) average daily rate (ADR), accommodation revenues, hospitality and sport services revenues, gross operating profit per available room (GOPPAR). Hotel managers, investors and analysts usually use TRevPAR and RevPAR (Pletikosa, Antić, 2015). TRevPAR is calculated as ratio of total accommodation revenues and total number of available accommodation units in a hotel. In addition to operational performance indicators annual financial performance measures are also applied, i.e. profitability indicators. Profitability can be defined as the primary measure of overall success of a company (Aerts, Walton, 2013).

The basic profitability indicators are revenue or profit growth rates, profitability measured as a rate of return on assets (ROA), rate of return on equity (ROE), net profit margin (NPM), gross profit margin (BPM), rate of return on invested capital (ROCE), earnings per share (EPS), net operating margin (NOM). Managers in family businesses usually prefer operational indicators, while the owners always give priority to profitability (Woo Gon, Baker, 2005,6). In addition to the above given performance measures, many authors also use sales growth rates and profitability (Brush, Vanderwerf, 1992), return on investments (ROI), return on sales (ROS), price variations, revenue per employee, productivity, profit per unit of product. Cruz, Justo and de Castro (2008) measure performance with profit values and ROA and obtain data from the questionnaire in which owners, considered as sample unit, enter profit and ROA for three consecutive years. Bergin-Seers and Jago (2007) use gross income, gross sales revenue and RevPAR as financial performance measures, while occupancy rates, number of new guests and accommodation rating evaluations represent non-financial measures. Smyrnois, Poutziouris and Goel (2013) analyzed growth rates of sales, ROA, ROE, ROC and include return on total assets (ROTA), return on total equity (ROTE), ROCE, with included salaries of directors.

The success of SFH is often measured with non-financial measures. Consequently, we can find in relevant literature an ongoing trend of operationalization of non-financial indicators (Peters, Kallmüenzer, 2015; Chua, Chrisman, Sharma, 1999; Zellweger, Astrachan, 2008). Some of the non-financial measures which are being operationalized for quantitative analysis are the transfer of ownership on family members, recognition in the community (Berrone, Cruz, Gomez-Mejia, 2012;

Zellweger et al., 2013), but when it comes to large family companies we can find in conceptual models the corporate reputation as a performance and success measure. Furthermore, Runyan, Drugs, Swinney (2008) evaluate in their questionnaire the overall efficiency where respondents are asked to compare overall performance – for previous and current year, compare the success of their own businesses in relation to the competitive business. This questions the objectivity of such performance/success measures, however, the authors state that they can prove high reliability of such measurements (Chandler, Hanks, 1994). Furthermore, Chinomona (2013) used in his study market share in sales, growth and general market share, where specific knowledge of an owner of a small family business is used as dependent variable. The study confirmed the influence of specific knowledge to performance/success of a business.

In this paper, success is measured by average net profit growth rate and average sales revenue growth rate for the period of five years - from 2010 - 2014, while the specific entrepreneurial skills of the owners of SFH on financing and capital structure refer to debt indicators and capital structure indicators.

### 3. Hypotheses and research questions

Based on the defined objectives and considerations in previous chapters hypotheses can be formed as follows:

***H1. Specific entrepreneurial knowledge on financing influences the performance of small family hotels, measured by net profit growth rate,***

***H2. Specific entrepreneurial knowledge on financing influences the performance of small family hotels, measured by sales revenue growth rate.***

Specific entrepreneurial knowledge refers to the knowledge of capital structure choice and financing type and is operationalized with debt to assets measures – total debt to assets ratio, short-term debt to assets ratio, long-term debt to assets ratio, and capital structure measures – equity-to-assets ratio and debt-to-equity ratio. The mentioned ratios will make independent variables in models created for hypotheses testing. Performance or success is operationalized with average net profit growth rate for the period of five years and average sales revenue growth rate for the period of five years. The mentioned measures will make dependent variables in models. In the first step of data analysis, average growth rates for dependent and independent variables will be calculated after which the influence of selected financial ratios, which represent entrepreneurial knowledge of the owners of SFH will be tested by using multiple regression analysis. Hypotheses will be tested by constructing two models, since there are two dependent variables.

Study will also give answers to the following research questions:

- What are average performance or success measures of SFH,
- What is the dynamics of performance measures and capital structure of SFH,
- What performance measures are usually used in literature concerning SFH,
- In what way can an entrepreneur by choosing capital structure influence to the performance of business.

### 4. Data and research methods

As set out in the previous chapter, capital structure and financing type will be operationalized with various measures, i.e. ratios and will make dependent and independent variables of two models. Dependent variables – average net profit growth rate and sales revenue growth rate will be calculated as average values for the period of five years, from 2010 to 2014. Typical profitability ratios – ROA, ROE, NPM will also be given and analyzed as a five-year average, for the period from 2010 to 2014 and as annual growth, i.e. change in order to get a deeper and more thorough insight into financial fluctuations and dynamics of financial performance. Method for analyzing

stated changes will be descriptive statistics. Independent variables - total debt to assets ratio, short-term debt to assets ratio, long-term debt to assets ratio, equity-to-assets ratio and debt-to-equity ratio will also be calculated as average values for the period of five years, from 2010 – 2014. Financial data on basic accounting categories were obtained from the Financial agency of Croatia according to which growth rates and ratios were calculated, and sample was composed on the basis of SFH list obtained from the National association of small and family hotels. There are 180 small hotels in the base of the National association of small and family hotels but all data were not submitted since Financial agency provides data only for companies, whereas there are also family farms and family accommodation providers (crafts) in the base of National agency. This opens space for further research and primary analysis of such businesses. According to the submitted data, the sample consists of 120 SFH (n=120), and method used for hypotheses testing is multiple linear regression, since there are more dependent and dependent variables. Furthermore, since regression allows to test only one dependent variable at a time, two models were developed to test each dependent variable with all independent variables.

## 5. Research results

Prior to empirical analysis and hypotheses testing an overview of all variables used and interpreted in models will be given. Furthermore, profitability ratios which will not be used in models, but are presented for the purposes of obtaining a deeper insight into performance of SFH are as follows – return on assets (ROA), return on equity (ROE), net profit margin (NPM). Table 1 shows typical financial performance ratios.

*Table 1 Typical financial performance measures*

	N	Minimum	Maximum	Sum	Mean	Std. Deviation	Variance	Skewness	Kurtosis
		Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic
ROA	541	,0000	,8642	21,7068	,040123	,0952238	,009		
ROA -average 5	112	,0000	,4889	4,6120	,041179	,0796818	,006	4,443	25,076
ROE	541	-24,8555	20,1466	81,5862	,150806	1,7187016	2,954	3,438	13,813
ROE -average 5	112	-5,0326	4,5715	17,6706	,157773	,7801844	,609	,235	148,496
NPM	524	,0000	1,8870	28,4707	,054333	,1195029	,014	8,475	112,144
NPM -average 5	105	,0000	,4678	5,4653	,052050	,0741865	,006	3,540	15,791
Valid N (listwise)	101								

*Source: author's calculations made in SPSS*

In Table 1 we can notice significant differences between minimal and maximal values of ROA, NPM and NPM in average for 5 years. Average values of ROA are 4,01% and 4,12%. When discussing ROE, values vary from negative values to positive values. Negative values arise out of negative values in balance sheet item capital (equity) and reserves. Moreover, certain number of businesses had a loss greater than capital which directly influences ROE since it is measured as revenue to equity ratio. In contrast, there are significant returns on invested capital – maximum of 20,15%, with 5-years average of approximately 15%.

According to the analysis and variance values, it is possible to conclude that there are no significant variations among profitability indicators. On the other hand, there are great deviations between minimal and maximal values of ratios. The mentioned fits well in the theory of small family

businesses in tourism, which states that the goals of a small family entrepreneur do not suppose soaring growth but stable business activity without ambitious growth plans. Furthermore, Table 2 shows values of all dependent and independent variables for 5 years period.

**Table 2** Variables overview – average growth values for the period from 2010 to 2014

Variable	Mean	Median	Std. Deviation	Variance	Skewness	Kurtosis	Min	Max
Sales revenue growth	4,20	1,05	57,33	3287,24	19,89	396,81	0,22	1145,75
Net profit growth	3,25	1,00	12,26	150,23	11,00	148,72	0,00	187,69
Total debt to assets ratio	1,03	0,99	0,55	0,31	7,78	74,10	0,04	7,38
Long-term debt to assets ratio	1,30	0,96	3,86	14,90	15,83	271,86	0,00	69,52
Short-term debt to assets ratio	1,54	1,00	7,76	60,21	19,17	380,90	0,02	156,68
Equity-to-assets ratio	1,38	1,03	2,61	6,82	10,17	116,73	0,00	35,93
Debt-to-assets ratio	2,04	0,93	16,76	280,80	18,26	337,39	0,00	311,13

Source: authors' calculations made in SPSS

According to Table 2, the greatest growth index in average for the period from 2010 to 2014 is recorded for sales revenue and is 4,2, but it is important keeping in mind extreme deviations in average sales revenue growth among years (standard deviation of 57,33 and variance of 3287,24). The average net profit growth is 3,25 with also significant deviations (standard deviation of 57,33 and variance of 150,23), but significantly lower compared to average sales revenue growth. Relatively stable and small growth has been noticed among all independent variables with smaller deviations for variables average growth of total debt to assets ratio and growth of equity-to-assets ratio, some greater deviations for long-term debt to assets ratio and short-term debt to assets ratio. Independent variable with greatest deviation is debt-to-equity ratio (standard deviation of 16,76 and variance of 280,80).

Furthermore, confirmation of hypotheses will be given by constructing two empirical models since there are two performance measures of SFH – average net profit growth rate and average sales revenue growth rate. In order to fulfill the condition of normality all variables were calculated as natural logarithms. Models were tested on the sample of 94 SFH. The initial number of data for analysis was 120 SFH but some cases were excluded from the analysis due to negative values or inability to calculate average values (negative or zero values for all five-year period). Outliers were also removed. First, the influence of debt to assets measures and capital structure measures will be tested on dependent variables average net profit growth rate. Table 3 shows results of first analysis, model 1 and gives the overview only of significant independent variables.

**Table 3** Multiple linear regression for dependent variable average net profit growth rate

Dependant variable: Average net profit growth rate (log) 94 total cases R <sup>2</sup> = 15,5%							
Model 1	Sum of squares	df	Mean square	Sig.	F-ratio		
Regression	13,061	4	3,265	0,034	2,788		
Residual	71,431	61	1,171				
Correlations							
Variables	Beta	t	Sig.	Zero-order	Partial	Part	VIF
(Constant)		3,013	,004				
Log_equity-to-assets ratio	,731	2,967	,004	,317	,355	,349	3,692

Source: authors' calculations made in SPSS



Firstly, the model was tested for multicollinearity. The condition was fulfilled with the VIF value of 3,692 for significant variable *Log\_equity-to-assets ratio*. Residuals should also be uncorrelated, i.e. unrelated and to test the preposition Durbin-Watson test was used. Optimal value of the test is 2, and for model 1 the value is 2,113 which confirms that residuals are not correlated. In the end residuals bias is also tested with Mahalanobis distance. Maximal value of Mahalanobis distance is 20,491, while critical value of  $X^2$  test, with  $p < 0,05$  for five independent variables is 11,07 (Field, 2013). According to the test, it is possible to determine that there is no residual bias. Regression equation according to the data in Table 3 is as follows:

$$\text{Log\_average net profit growth rate}_i = 2,098 + 0,731\text{Log\_average equity-to-assets ratio}_i \quad (1)$$

In the equation is included only significant variable equity-to-assets ratio.

According to the model 1 it is possible to conclude that when equity-to-assets ratio increases for 1 percent, i.e. for one if calculated as indexes, then average net profit growth rate will increase for 0,731 percent, i.e. 0,731 if calculated as indexes. Other variables do not significantly influence average net profit growth rate. On the basis of the first proposition the first hypothesis is confirmed.

Furthermore, Table 4 shows the results of second analysis, model 2 with dependent variable average sales revenue growth rate and gives the overview only of significant independent variables.

**Table 4** Multiple linear regression for dependent variable average sales revenue growth rate

Dependant variable: Average sales revenue growth rate (log)							
94 total cases							
R <sup>2</sup> = 18%							
Model 2	Sum of squares	df	Mean square	Sig.	F-ratio		
Regression	2,345	4	0,586	0,015	3,350		
Residual	10,672	61	0,175				
Correlations							
Variables	Beta	t	Sig.	Zero-order	Partial	Part	VIF
(Constant)		,230	,819				
Log_debt-to-assets ratio	,244	3,227	,002	,369	,382	,374	2,425

Source: authors' calculations made in SPSS

Firstly, model was tested for multicollinearity. The condition was fulfilled with the VIF value of 2,425 for significant variable *Log\_debt-to-assets ratio*. Residuals should also be uncorrelated, i.e. unrelated and to test the preposition Durbin-Watson test was used. Optimal value of the test is 2, and for model 2 the value is 2,016 which proves that residuals are not correlated. As for in model 1, model 2 is also tested for residual bias with Mahalanobis distance test. Maximal value of Mahalanobis distance is 28,216, while critical value of  $X^2$  test, with  $p < 0,05$  for five independent variables is 11,07 (Field, 2013). According to the test, it is possible to determine that there is no residual bias. Regression equation according to the data in Table 4 is as follows:

$$\text{Log\_average sales revenue growth rate}_i = 0,066 + 0,244\text{Log\_average debt-to-assets ratio}_i \quad (2)$$

In the equation is included only significant variable debt-to-assets ratio.

According to the model 2 it is possible to conclude that when debt-to-assets ratio increases for 1 percent, i.e. for one if calculated as indexes, then average sales revenue growth rate will increase for 0,244 percent, i.e. 0,244 if calculated as indexes. Other variables do not significantly influence

average sales revenue growth rate. On the basis of the second proposition the second hypothesis is confirmed.

## 6. Conclusion

The current study makes important academic and practical contribution to the small business literature and practice. To the authors' knowledge, this is the first research of a kind for SFH in Croatia that encompasses average growth rates for five-year period – sales revenue and net profit. ROA, ROE and NPM were also analyzed as amendment to performance measures tested in models. For the purposes of hypotheses confirmation two empirical model were constructed. According to the model 1 it is possible to conclude that when equity-to-assets ratio increases for 1 percent, i.e. for one if calculated as indexes, then average net profit growth rate will increase for 0,731 percent, i.e. 0,731 if calculated as indexes. Model 1 confirms the first hypothesis. Consequently, if the share of own equity to total assets increases, the company will generate higher profits.

To test the second hypothesis, model 2 was constructed, which also confirms the second hypothesis. Therefore, according to the model 2 if debt-to-assets ratio increases for 1 percent, i.e. for one if calculated as indexes, then average sales revenue growth rate will increase for 0,244 percent, i.e. 0,244 if calculated as indexes. Consequently, if indebtedness increases, revenue sales also increases. By comparing two models it can be seen that when discussing operative business, sales revenue increases when debt increases, while on the other hand if the share of own equity to total assets increases, net profit increases.

## 7. Implication for further research

Upon empirical and theoretical analysis, additional analysis was detected to be conducted which could capture the dynamic effects of changes in performance measures, debt to assets ratios and capital structure ratios year by year - from 2010 – 2014, without averaging values, or even taking a longer time span. Also, as a supplement to this study it would be beneficial to conduct a primary analysis of non-financial indicators and carry out a primary qualitative research with the purpose to identify the main business characteristics of SFH. Furthermore, as amendment to this study the authors see in the comparative study where the aforementioned measures could be compared to the measures of the neighboring countries.

## REFERENCES

- Aerts, W., Walton, P. (2013): *Global Financial Accounting and Reporting: Principles and Analysis*, 3<sup>rd</sup> edition, Cengage Learning
- Aflić, S., Priskić, E. (2013): *Entrepreneurship in Small Family - run Hotels - Croatian Tourism Case Study*, *Učenje za poduzetništvo*, Vol. 2, No. 1, pp. 329-335
- Austrian institute for SME research (2008): *Overview of Family Business Relevant Issues*, Final report, Oslo
- Bergin-Seers, S, Jago, L (2007): *Performance measurement in small motels in Australia*, *Tourism and hospitality research*, Vol. 7, No. 2, pp. 144-155
- Berrone, P., Cruz, C., Gomez-Mejia, L.R. (2012): *Socioemotional Wealth in Family Firms: Theoretical Dimensions, Assessment Approaches, and Agenda for Future*, *Family Business Review*, Vol. 25, No. 3, pp. 258-279

- Brush, C. G., Vanderwerf, P. A., (1992): *A comparison of methods and sources for obtaining estimates of new venture performance*, Journal of Business Venturing, Vol. 7, Issue 2, pp. 157-170
- Cabrera-Suárez, K., De Saá-Pérez, P.D., García-Almeida, D. (2001): *The Succession Process from a Resource- and Knowledge-Based View of the Family Firm*, Family Business Review, pp. 37-46
- Centar za politiku razvoja malih i srednjih poduzeća i poduzetništva (2012): *Razvoj i održivost obiteljskih poduzeća u Hrvatskoj*, Zagreb, CEPOR
- Chandler, G.N., Hanks, S.H. (1994): *Market attractiveness, resource-based capabilities, venture strategies, and venture performance*, Journal of Business Venturing, Vol. 9, No. 4, pp. 331-349
- Chinomona, R. (2013): *Business Owner's Expertise, Employee Skills Training and Business Performance: A Small Business Perspective*, The Journal of Applied Business Research, Vol. 29, No.6, pp. 1883-1896
- Chua, J., Chrisman, J., Sharma, P. (1999): *Defining the Family Business by Behaviour*, Entrepreneurship Theory and Practice, Vol. 23, Issue 4, pp. 19-37
- Cruz, C., Justo, R., De Castro, J. (2008): *Family Involvement and Firm Performance: A Family Embedded Perspective*, IE Business School Working Paper
- European Consumer Centre` Network (2009): *Classification of Hotel Establishments within the EU*, ECC-net, European Union
- Field, A. (2013): *Discovering Statistics Using SPSS*, SAGE Publications, London
- Getz, D., Carlsen, J., Morrison (2004): *The Family Business in Tourism and Hospitality*, CABI Publishing, London
- Getz, D., Carlsen, J. (2005): *Family business in tourism, State of the art*, Annals of Tourism Research, Vol. 32, No. 1, pp. 237-258
- Peters, M., Kallmüenzer, A. (2015): *Entrepreneurial Orientation in Family Firms: the Case of the Hospitality Industry*, Current Issues in Tourism, DOI: 10.1080/13683500.2015.1053849
- Runyan, R., Droge, C., Swinney, J. (2008): *Entrepreneurial Orientation versus Small Business Orientation: What Are Their Relationships to Firm Performance*, Journal of Small Business Management, Vol. 46, Issue 4, pp. 567-588
- Smyrnois, K.X., Poutziouris, P.Z., Goel, S (2013): *Handbook of Research on Family Business, Second Edition*, Edward Elgar Publishing Limited., Cheltenham
- Zellweger, T. M. Astrachan, J. H. (2008): *On the Emotional Value of Owning a Firm*, Family Business Review, Vol 21, pp. 347-363. doi: 10.1111/j.1741-6248.2008.00129.x
- Zellweger, T.M., Nason, R.S., Nordqvist, M., Brush, C.G (2013): *Why Do Family Firms Strive for Nonfinancial Goals? An Organizational Identity Perspective*, Entrepreneurship Theory and Practice, Vol. 37, Issue 2, pp. 229-248

**Maja Buljat, mag.oec, teaching assistant**

The University of Applied Sciences Baltazar Zaprešić

Vladimira Novaka 23, 10290 Zaprešić

Telephone: 00385 98 9423 672

E-mail: maja.buljat@bak.hr

**Suzana Đorđević, mag.oec, teaching assistant**

The University of Applied Sciences Baltazar Zaprešić

Vladimira Novaka 23, 10290 Zaprešić

Telephone: 00385 99 3040 830

E-mail: suzana.djordjevic@bak.hr

**THE INFLUENCE OF TAX POLICY ON TOURISM**

**UTJECAJ POREZNE POLITIKE NA TURIZAM**

**ABSTRACT**

*Tourism and hospitality sector is one of the leading business operations in the Republic of Croatia, and its development greatly fosters the development of economy. Tourism sector used to be free of tax, but because of its fast grow, in 1995 Croatia introduced tax rate on all goods and services (Value Added Tax Act). Consequently, tourism sector was left in a worse situation in comparison to its competitors. Tax rates have changed over the years, and on January 1st 2014, the tax rate of 10% was replaced by a tax rate that amounted 13% of VAT. Several theoretical and empirical methods of scientific research have been used to approach the problem. Theoretical research was conducted using methods of analysis and synthesis, description and qualification. Empirical research was conducted using statistical method, method of analysis of time series where the gathered data were grouped and presented in tables and charts, and based on mathematical methods analysed and compared. The research results show that tax policy has a significant influence on hospitality sector by making it less competitive.*

*The aim of this paper is to analyse the influence of tax policy on the economy in general, and on the tourism sector. Employees in tourism and hospitality sector pay the tax, which in return should contribute to the state budget as well as to the development of economy. Tourist industry as a part of state's economy makes profit by offering different tourist activities. This paper will analyse how and at what extent the existing tax policy can increase inflow of foreign direct investments in tourism sector.*

**Key words:** *tourism, value added tax (VAT), foreign direct investments (FDI), economy.*

## SAŽETAK

*Sektor turizma i ugostiteljstva jedan je od vodećih djelatnosti u Republici Hrvatskoj, te njihov razvoj u mnogočemu potiče razvoj cjelokupnog gospodarstva države. Turizam je bio oslobođen poreza, no njegov ubrzani rast naveo je državu da 1995. godine (Zakonom o porezu na dodanu vrijednost) uvede jedinstvenu stopu poreza od 22% za sva dobra i usluge. To je dovelo turizam u nepovoljniju poziciju od konkurenata. Porezna stope su se kroz sljedeće godine mijenjale, te od 1. siječnja 2014. stopa od 10% zamjenjuje se stopom od 13% PDV-a. Da bi se istražio problem koristilo se s više teorijskih i empirijskih metoda znanstvenih istraživanja. Teorijski dio se provodio putem metode analize i sinteze, deskripcije i klasifikacije. Empirijski dio se proveo statističkom metodom, metodom analize vremenskih nizova putem koje su se prikupljeni podaci grupirali, te tabelarno i grafički prikazali, a na temelju matematičkih metoda analizirali i usporedili. Rezultati istraživanja pokazuju da porezna politika bitno određuje položaj hrvatskog turizma na način da ga čini manje konkurentnim.*

*Cilj rada je analizirati utjecaj porezne politike na gospodarstvo općenito, a zatim i na turizam. Budući da ugostiteljski i turistički djelatnici plaćaju državni porez, taj porez trebao bi doprinosti povećanju državnog budžeta, tako i razvoj ekonomije i gospodarstva jedne države. Turističke djelatnosti dio su ekonomije i gospodarstva, jer stječu korist i profit od plasmana turističke ponude. Analizirat će se da li i u kojoj mjeri postojeća porezna politika može povećati priljev inozemnih izravnih ulaganja u turizam.*

**Ključne riječi:** *Turizam, Porez na dodanu vrijednost (PDV), Inozemna izravna ulaganja (FDI), Gospodarstvo.*

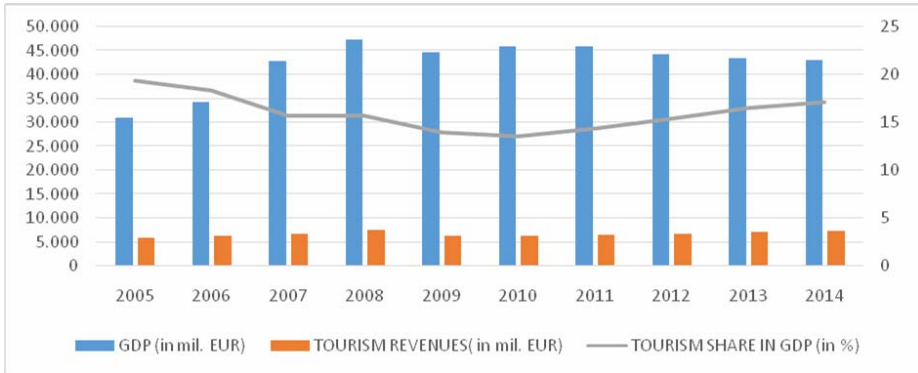
### 1. Introduction

During the last decades tax system of the Republic of Croatia has been a subject of many reforms. Nevertheless, the stability of tax system is an important factor in hospitality business performance. The development of tourism and hospitality sector fosters the development of economy. For many countries, Croatia included, tourism sector is one of the greatest generators of employment and it presents one of the most dynamic fields with great importance for the development of world economy. Investing into tourism is a prerequisite for its development. Macro economical and business environment in Croatia limits hospitality business performance, development and activities. For the purposes of this paper, the influence of tax policy on hospitality sector and foreign direct investments (FDI) was analysed. As an attempt to attract foreign investments, Croatia has tried to ensure greater competitiveness on the capital market by introducing tax policy measures. Every tax reform aims to increase the level of savings and investments, achieve the simplicity of tax system and tax progression and also to lower public consumption and tax burden. Tourism sector is strategically important for economic recovery of countries affected by crisis and it is necessary to analyse the influence of tax policy on its performance and contra productive effects on employment, financial results and competition.

### 2. Analysis of tourism contributions to GDP

In spite of many economic challenges present in the modern world, which is still recovering from the recent crisis, tourism sector has shown an upward trend. Among the most important indicators of tourism sector development are its contributions to GDP.

*Chart 1 Tourism sector revenues*



*Source: Processed by the authors according to the data obtained from the Ministry of Tourism (2005. – 2014.a)*

Tourism sector revenues are the sum of revenues generated out of personal and business reasons. In 2014 tourism in Croatia generated 7.4 billion euros in revenues, representing an annual growth of 2.8 percent, and tourism share in GDP amounted to 17.2%. Foreign currency income from tourism has been increasing since 2011 and in 2014 it reached a record high exceeding the pre-crisis year of 2008. In the last few years Croatian GDP has been declining, which makes the growth of foreign currency income from tourism in GDP more visible. Croatia is the leading country in the EU with 17.3 percent of foreign exchange earnings from tourism, followed by the island states of Malta and Cyprus, each with 14.3 and 12.1 percent share. Greece, for example, has a share of 7.5 percent. Shares of some developed countries are as follows: Spain has a share of 4.6 percent; the share of Austria is slightly higher and amounts to 4.7 percent, while Italy has a share of 2.1 percent. Such a high indicator in the case of Croatia suggests a high degree of dependence of the economy on tourism and it relates to under development of other sectors. Is it possible to base the prosperity of national economy on a variable whose value is about one-fifth of GDP, but which is risky because it can be influenced by various natural disasters and geo-political instability? Although the segment of personal reasons is getting stronger each year, it is important to emphasize that the revenues generated from tourist arrivals for business reasons have been in constant decline since 2005, when they amounted to €504 million. In 2008 they amounted to €386 million, and in 2014 they amounted to €194 million, which was an impact of recession. Excessive tax burden and frequent changes in fiscal policy can have a negative impact on tourism development. These can lead to a decrease in tourism competitiveness and a reduction in tourist traffic. Consequently, other sectors of the economy are likely to be affected because tourism in Croatia accounts for a significant share of the total GDP. When we talk about the state of the Croatian economy, it should be noted that GDP has increased in the past ten years not because there has been a production growth, but because of increased consumption of imported goods. This has resulted in high unemployment rate and a changed economic structure.

### **3. Tax policy in tourism**

Fiscal system is the basis of country's fiscal policy, and it can be defined as an inventory of all fiscal activities, both government expenditures and its revenues. (Roller, 2003, p. 3.)

Tax policy can be seen as a part of fiscal policy and as such, it has to achieve economic goals, which include increasing employment rate, stimulating production, price stability and producing a strong balance sheet. Tax system and policy are a subject to changes, which should not be too often

or too radical. In 1995 Croatia introduced Value Added Tax Act, tax rate of 22 percent on all goods and services. Consequently, tourism sector was left in a worse situation in comparison to rival countries, where the tax rate was significantly lower. (Hendija, 2007. p. 393).

(Perić, Blažević, Dragičević, 2014.) Economic policy measures were a reflection of incomplete tourism development policy and thus the hotel industry itself. Economic position comparison of Croatian hotel industry and that of selected countries (Spain, France, Italy, Hungary, Greece and Turkey) indicates a worse economic position of Croatian hotel industry which is in great part a reflection of (not) taken economic policy measures. By the research conducted it has been proved that the selected components of economic policy (VAT, exchange rate and interest rate) essentially predetermine the economic position of the Croatian hotel industry in the way that they limit the business performance and make it less competitive in relation to its immediate competition.

One important issue for the Croatian tourism development is the influence of VAT on tourism sector. Since tax was introduced in 1998, there has been a number of changes. In 2006a service tax rate on hotel and restaurant industry of 10 percent was introduced and it related to accommodation services, accommodation with complimentary breakfast, half board or full board services in all types of commercial hospitality objects. Commercial hospitality objects include hotels, apart hotels, tourist resorts, apartments, pensions, guesthouses, camps, holiday houses, rooms for rent, hostels, hiking and hunting lodges, Robinson Crusoe type accommodation, boats equipped for longer stays of crew and tourists. Later the service tax rate on hotel and restaurant industry amounted to 23 percent, i.e. to 25 percent. At the beginning of 2013 the service tax rate of 10 percent on hotel and restaurant industry was introduced. In 2014 the VAT rate on hotel and restaurant industry was increased from 10 percent to 13 percent. Changes in the VAT rate on tourist services affect employment rate, incomes, exports and competitiveness. A decline in the VAT rate on hotel and restaurant industry would improve the employment rate and revenues (of both state and companies).

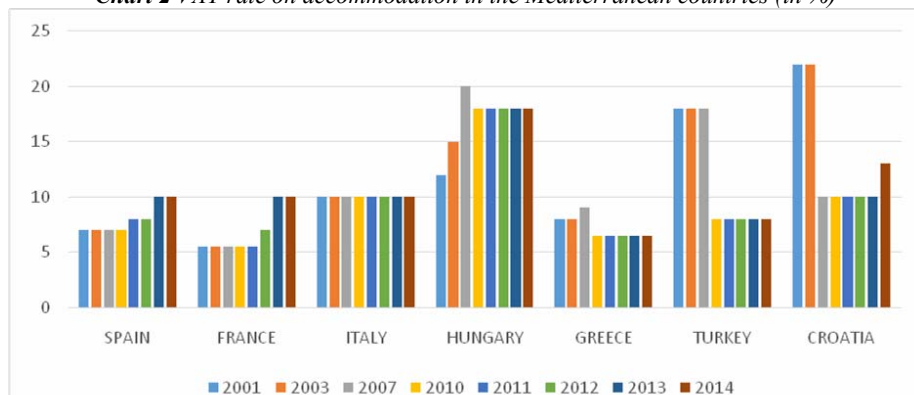
Economic effects that followed the VAT introduction can be seen in the increase of unemployment rate, decline of real purchasing power of population and impoverishment of socially vulnerable category of population. Tax system should be aligned with the economy, economic structures and objectives.

### **3.1. Comparing vat rate in hotel sector to rival countries**

Competitiveness of specific countries and their ability to generate revenues in tourism and hospitality sector is influenced by indirect taxation, i.e. VAT. Tourists' destination competitiveness is defined as the ability of a destination to increase tourist consumption and attract as many tourists as possible by providing an unforgettable experience, while making profit and achieving benefits for generations to come (Bartoluci, 2013.).

VAT represents a key instrument in tax policy for tourism sector and has a direct influence on prices, demand and competitiveness of products. An advantage of multiple-rate VAT system is lowering tax rates on certain products and services, which can help economic growth and increase competitiveness of key sectors. Lower tax rates are also important for tourism sector. If the tax rate is high, tourism will be left in a worse economic position in comparison to foreign competitors. Among the selected rival countries (Chart 1) it can be seen that Croatia is one of the countries that have the highest service tax rate on accommodation.

**Chart 2** VAT rate on accommodation in the Mediterranean countries (in %)



Source: Processed by the authors according to data obtained from Perić, Blažević and Dragičević (2014) and the Association of Employers in Croatian Hospitality (2014)

Tourism is a highly competitive sector and it operates on the international market, where different conditions of competitiveness in hospitality and tourism sector are established between countries. The most developed tourist countries have a competitive level of taxation, or lower VAT rates on hotels and restaurants industry. The range of VAT rates on hotel accommodation (Chart 2) in selected rival countries in 2014 differed from 10 to 18 percent. Greece had a VAT rate of six percent, Turkey eight percent, Spain, France and Italy had ten percent, Croatia thirteen percent and Hungary had a rate of eighteen percent. Financial crisis that hit the world and Europe has changed the direction of tourist flows and simultaneously it increased the competition level between tourist destinations, which are trying to keep/ increase their market shares. Croatia needs to be able to recognise all relevant trends of supply and demand in tourism and to identify a taxation system, which will make it and its tourist offer competitive.

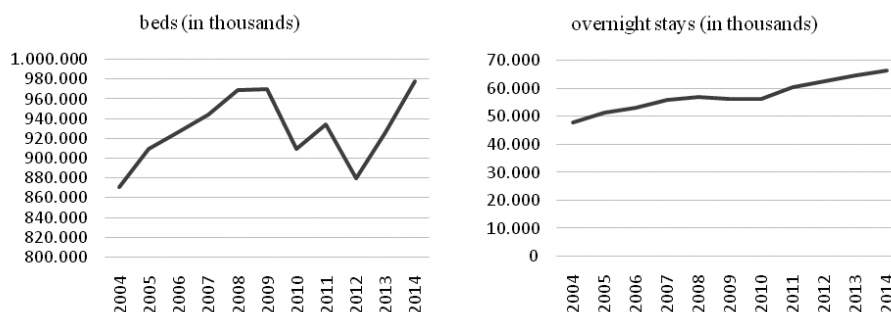
Changes in the VAT rate on accommodation affects sales prices, i.e. by reducing the rate sales prices also reduce.

### 3.2. Analysis of hospitality sector business performance in the period of vat rate changes

In order to identify the economic position of tourism and hospitality sector it is necessary to analyse capacity of tourist accommodation establishments. In chart 3, we can see an upward trend of tourist accommodation establishments' occupancy in the period from 2005 to 2008, when there was a sudden fall caused by the world financial crisis. Comparing the period when the VAT rate on accommodation services amounted to 22 percent and the year of 2006 when it fell to 10 percent, there was an increase in the number of beds and overnight stays. Comparing the data to the period of 2005 the number of beds has risen by 7.5 percent, while the number of overnight stays has increased by 29.3 %.



**Chart 3 Accommodation utilization**



Source: Processed by authors according to data obtained from the Croatian Bureau of Statistics (2014) and the Ministry of Tourism (2005. – 2014. b)

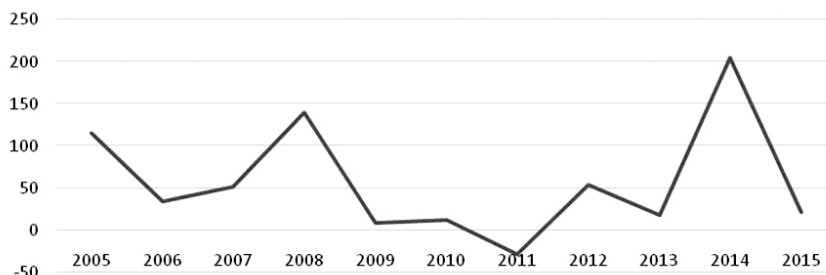
The highest average daily rate (ADR) in euros was noticed before the crisis, i.e. in 2007. The most of the market still has not recovered, only Turkey has succeeded in maintaining the average daily rate and in increasing it by almost 9 percent in 2013. The rate in France, which in 2007 had the highest average daily rate (147,11 euros), has fallen significantly in the meantime (in 2013 it fell by 24 %), the decline in Italy amounted to 13 %, in Portugal and Spain it amounted to 7% and in Greece to 5%. After the ADR had fallen in Croatia in 2008 and 2009, there was a rise and some mild fluctuations, and finally in 2013 Croatia had an increase of 6% in comparison to pre-crisis period. Analysing the average daily rate (ADR) in the timeframe of seven years it has been discovered that Croatia has a higher ADR than Spain (4%) and Portugal (5%), but lower than Italy (34%), France (33%), Greece (22%) and Turkey (8%). Taking into account the competitiveness of tourist market, these results can be seen in two ways. From the perspective of tourist demand, lower prices help attract visitors. From the perspective of hotel owners and investors, higher ADR shows better business performance and better financial results (Pletikosa, 2015a)

#### 4. Foreign direct investments in tourism

Just as other transition countries, by introducing tax policy measures the Republic of Croatia is trying to become a competitor in attracting FDI. There have been many changes in income tax system, especially when it comes to tax incentives, exemptions and reliefs. By introducing different fiscal policy measures, the government is trying to stimulate investments, but on the other hand, it does not want to influence the neutrality and consistency of tax system.

The golden age of foreign direct investment in hotels and restaurants in the observed period was from 2005 to 2006, thanks to investments made by owners. In 2008, total foreign investment had the highest level in the pre-crisis period and it amounted to 139.7 million euros. This was followed by a sharp fall and in 2009 foreign investment amounted to 8.2 million euros. In the next two years, the situation got even worse and in 2011 direct investments fell by -28.6 million euros. After that, there was an increase of foreign direct investments in hotels and restaurants, reaching the high of 204.7 million euros in 2014.

**Chart 4** Foreign direct investments in tourism (in million Euro)



Source:

Processed by the authors according to the data from Croatian National Bank (2016.)

(Pletikosa, 2015.b) Countries with lower tax burdens attract more foreign direct investments. Croatia makes a good competitor, but it does not attract a significant number of FDI because of other issues, such as bureaucratically obstacles, high corruption level and often changes of regulations. Lower taxes in hospitality sector make the country attractive for visitors and investors, but they are not sufficient for any significant FDI.

## 5. Conclusion

Tourism has a positive effect on other industries, and in return, other industries benefit the development of tourism. Tourism sector in Croatia could become a generator of development for all other industries. Nevertheless, tourism sector is exposed to a great number of external influences on which Croatia has no influence. Taking into account that price elasticity in tourism is significant, reducing the VAT rate should result in lower prices, and thus in an increased level of demand. In 2014 the service VAT rate on hotel and restaurant industry was increased from 10 to 13 %, which has weekend Croatia as a destination and which has affected investments in tourism. Currently Croatia has the highest service VAT rate on hotel and restaurant industry out of all Mediterranean countries. High tax rate on consumption results in development stagnation. Fiscal system's and fiscal policy's main role is to stimulate competitiveness. The efficiency of fiscal policy measures depends on the context and the way they are used. The highest level of efficiency can be achieved if fiscal policy measures are aligned with the structure and industry policy of a country. By introducing clear structure policy, the government can influence economic structure and competitiveness, mainly in tourism sector, which makes a big part of GDP of Croatia. For Croatian economy, tourism is of great significance. However, Croatian competitiveness in world tourism is weak. Tourism is an economic branch with a lot of unused potential for investments and growth. Every country that wants to develop tourism sector has to introduce stimulating measures for investors because direct and indirect consequences of tourism include increase of investments, growth of employment rate and revenues. Precisely these stable business conditions and the level of tax rates present the basis for attracting and maintaining investors.

## REFERENCES

Association of Employers in Croatian Hospitality (2014.). *Utjecaj porezne politike na ulaganja u turizmu*. 17<sup>th</sup> Congress of Hoteliers, Zagreb

Bartoluci, M. (2013.). *Upravljanje razvojem turizma i poduzetništva*. Zagreb: Školska knjiga

Croatian Bureau of Statistics (2014). Statistical Yearbook of the Republic of Croatia 2014, ISSN 1333-3305, [http://www.dzs.hr/Hrv\\_Eng/ljetopis/2014/sljh2014.pdf](http://www.dzs.hr/Hrv_Eng/ljetopis/2014/sljh2014.pdf) (last accessed on February 12 2016)

Croatian National Bank (2016.) *Foreign direct investments*, <http://www.hnb.hr/statistika/statisticki-podaci/sekter-inozemstva/inozemna-izravna-ulaganja> (last accessed on April 1 2016.)

Hendija, Z. (2007). *Komparativna analiza hrvatskog turizma u konkurentskom okruženju europskog Sredozemlja*. Ph. D. thesis, Zagreb: University of Zagreb – Faculty of Economics and Business

Ministry of Tourism (2005-2015.) *Data and statistics, Tourism in figures*, <http://www.mint.hr/default.aspx?id=976> (last accessed on January 14 2016.)

Perić, J., Blažević, B., Dragičević, D., (2014). *Utjecaj mjera ekonomske politike na ekonomski položaj i konkurentnost hotelskih poduzeća*. UDK 640.41:338.246 JEL Classification L83, E65 Prethodno priopćenje

Pletikosa, D. (2015.). *Utjecaj inozemnih izravnih ulaganja na uspješnost poslovanja u hotelijerstvu*. Ph. D. thesis, Zagreb: University of Zagreb – Faculty of Economics and Business

Roller, D. (2003): *Fiskalna politika u turizmu*, Narodne novine d.d., Zagreb

**Admir Čavalić, mag. oec**  
Ekonomski fakultet u Tuzli  
Univerzitetska 8, 75000 Tuzla  
Phone: 387/61-654-320  
E-mail: admir.cavalic@yahoo.com

## CREATIVE INDUSTRIES OF TUZLA CANTON

### KREATIVNE INDUSTRIJE TUZLANSKOG KANTONA

#### ABSTRACT

*Creative industries / sectors / economy in the last two decades experienced remarkable growth in the context of the world economy. 21st century is projected to be depend on increasing knowledge through creativity and innovation, which is the base of operations for creative industries. The trends in this area are not evenly distributed, so some countries are far behind the others, and there is a clear gap. In addition, there is a gap in the development of creative industries within a country, mainly due to the fact that this kind of industry is exclusively urban ie. related to the city. In the broadest sense, the creative industries include all individuals / organizations that on the basis of creativity as the main input participate in the process of creating a new market value. The paper theoretically examines the creative industries and the characteristics of those in Bosnia and Herzegovina, with a focus on the Tuzla Canton. In this paper are presented the results and discussion of the basic features of the creative industries in Tuzla Canton, indicating the appropriate recommendations for improvement in this area. Most of the research was done with the representatives of non-governmental sector that operate in regional markets. Based on the results of research, the paper states that the availability of financial resources makes the greatest need of creative industries and that there is a problem with the lack of networking among creative people, but also other stakeholders in this area. When it comes to state support programs, creative industries are familiar with those, but do not use them enough, nor are satisfied with the work of local and cantonal government authorities.*

**Keywords:** *creative industry, creative sectors, characteristics of the creative industry, Tuzla Canton*

#### SAŽETAK

*Kreativne industrije/sektori/ekonomije u zadnje dvije decenije doživljavaju izuzetan rast u okviru svjetske ekonomije. Za 21. stoljeće se predviđa da će zavisiti od povećanja znanja putem kreativnosti i inovacija, što je osnova poslovanja kreativnih industrija. Trendovi u ovoj oblasti nisu ravnomjerno raspoređeni, tako da određene zemlje značajno zaostaju za drugima, te postoji jasan jaz. Pored toga, postoji jaz u razvoju kreativne industrije unutar jedne zemlje, najvećim dijelom zbog činjenice da je data industrija isključivo urbana tj. vezana za grad. U najširem smislu, kreativne industrije podrazumijevaju sve pojedince/organizacije koje na bazi kreativnosti kao glavnog inputa učestvuju u procesu stvaranja nove tržišne vrijednosti. Rad teorijski razmatra kreativne industrije i obilježja navedenih u Bosni i Hercegovini, sa fokusom na Tuzlanski kanton. U radu se navode rezultati i diskusija istraživanja osnovnih obilježja kreativne industrije*

*Tuzlanskog kantona, uz navođenje prigodnih preporuka za unaprijeđenje u ovoj oblasti. Najveći dio ispitanika čine predstavnici nevladinog sektora koji djeluju na regionalnim tržištima. Shodno rezultatima istraživanja, u radu se navodi da dostupnost finansijskih sredstava čini najveću potrebu kreativnih industrija, uz postojanje problema nedostatka umreženosti, između kreativaca, ali i drugih stejkholdera u ovoj oblasti. Kada je riječ o programima državne podrške, akteri kreativne industrije su upoznati sa navedenima, ali ih ne koriste dovoljno, niti su zadovoljni radom lokalnih i kantonalnih vlasti.*

***Ključne riječi:*** kreativna industrija, kreativni sektor, obilježja kreativne industrije, Tuzlanski kanton

## **1. Introduction**

Creative economy and creative industries and/or sectors, represent one of the most interesting areas for the growth of the world economy, which is only in the last few years gaining the attention of academia, and the general public. Due to the fact that creative industries primarily rely on the resource of human capital, they provide the possibility for growth of underdeveloped countries of the world, whose economies are mainly labor-intensive and are based on the abilities and skills of their workers. Although there is no single definition of the term creative economy/industry, it is possible to identify several dozen activities that exclusively use creativity and innovation to produce new market value. In addition to employing a large number of workers, mostly through self-employment, creative industries generate positive externalities and participate in the creation of synergy effect for other, conventional economic branches. For all these reasons, it is particularly important for Bosnia and Herzegovina, and Tuzla Canton as the most populous canton in the Federation of Bosnia and Herzegovina, to carry out the identification and mapping of representatives of the creative industries, with an analytical discussion of the theoretical framework and examination of the situation in this sector. Paper aims, based on primary and secondary research in this field, to identify and specify certain guidelines and recommendations for the improvement and development of cooperation between various stakeholders in the creative industries. Following chapter presents the theoretical framework of the research, after which is analyzed the state of the creative industries in Tuzla Canton.

## **2. Creative industries**

In the last two decades, creative and cultural industries experienced a remarkable growth in the context of the world economy. There is sudden appearance of the term „creative“ in the World Bank (Creative Industries, 2012), OECD (Creative industries and the knowledge economy, 2014) and UNESCO (Creative Industries, 2016) reports, as well in documents of other international organisations. Many authors believe that in this era of extraordinary change and globalization, creativity and innovation are now driving the new economy (Van der Pol, 2008, 234). Some even predict that industries of the twenty first century will depend increasingly on the generation of knowledge through creativity and innovation (Landry, Bianchini, 1995, 4), while other write that the creative industries represent one of the most important areas of the twenty-first century's global economy (Henry, 2007, 1). However, the trends are not evenly distributed around the world. UNESCO states that the world map of creative industries shows pronounced gap between North and South. This, it is further stated, can be reduced by strengthening local capacities and facilitating access to global markets at national level by way of new partnerships, know-how, control of piracy and increased international solidarity of every kind (UNESCO, 2015). Expressions such as “creative and cultural economics” are quite recent, and they are challenging to researchers from various scientific disciplines, as well as to anyone involved in cultural and creative industry

(Tomašević, 2013, 65). The concept of the creative economy is very fluid and it is difficult to accept a definition that in the best way describes the essence of the given concept. There are many definitions, but also different terms used to indicate the same. In addition to the term "creative economy", authors are using the same or similar terms such as "creative sector" and the "creative industries". In addition, there are numerous alternatives. For instance in United States there is increase in using the term "copyright industries" (or copyright based industries) or "entertainment industry", while in Europe preference is "creative industries", "cultural industries", "leisure industry", "media industry" and "content industry". Different terminology is specific to certain countries so authors from UK and Australia prefer the term "creative industries", in China "cultural industries", Sweden "industry of experience" (Upplevelseindustrin), Denmark "industry of culture and experience" (Kultur-og Oplevelsesøkonomien), Norway "industry based on culture", Finland "creative economy", Iceland "creative industries" and in the US, as previously stated, the entertainment industry and the media or copyright industries (Creative Industries Education in the Nordic Countries, 2007, 8). UNESCO, EU and the OECD use the term "cultural industries" or "cultural sectors". In Bosnia and Herzegovina and neighboring countries generally, authors usually use terms "creative industries", "creative sector" and the "creative economy". In use, the creative economy usually implies a much broader concept than the creative industries and the creative sector. In fact, it is the concept that refers to creativity in the whole economy, not just in one sector. Paper will use the term "creative industries".

Although the term "creative industries" first appeared in the strategic document „Creative Nation“ (1994) by Australian government, the very definition of the term was first officially used in 1998, in a document of the British government called „Creative Industries Mapping Document“. Definition from this document was subsequently adopted by researchers and politicians around the world. It defines creative industries as those activities that come from individual creativity, skill and talent and which have the potential to create wealth and jobs through the generation and exploitation of intellectual property (Jovičić, Mikić, 2006, 10). This definition has three important elements: basic resources are the people - their intellect, skills and imagination; economic value comes from the inspiration of the individual and the reputation that the individual receives for his creative talent; the concept of intellectual property rights and the importance of protecting these rights is central for realizing economic value. Based on the definition, we can see the openness of creative industries - all people are creative, and if society allows them to express their creativity, its economic as well as demographic power will rise (Perinić, 2010, 111).

Focus of the creative industries is human, who represents the main source of added value, while the role of the state is to ensure the protection of intellectual property. In the broadest sense, creative industries refers to various economic activities related to the creation and use of knowledge and information. In accordance with the definition of "Kultur in Deutschland" Commission, creative industry consists of all cultural and creative enterprises that have a mainly commercial focus and are engaged in the creation, production, distribution and/or media dissemination of cultural/creative goods and services. This rules out not-for-profit organisations as well as associations and publicly sponsored institutions (Dapp, Ehmer, 2011, 2), which occur in other definitions. Creative industries are those based on the creativity, skills and talent of the individual, and their potential to create employment and wealth based on the production and exploitation of intellectual property (Generalne informacije o kreativnim industrijama, 2013). Within the EU member states there are different definitions and models of creative industries. Still so-called NACE statistical classification is accepted, which divides the creative industry into two subgroups: cultural industries and the creative sector. In the first group are classified all the cultural activities in their narrowest sense: publishing, film, artistic activity, the media, trade with cultural goods,

architecture and design while the creative sector includes software and games industry (Kreativna industrija u Sarajevu, 2014). Howkins states that creative economy is made from advertising, architecture, art, crafts, design, fashion, film, music, performing arts, publishing, research and development, applications, toys and games, TV and radio, as well as video games (Howkins, 2011, 88). Some authors added that education, be it public or private, is part of creative economy (Creative Industries Education and the Nordic Countries, 2007, 8). Creative industries can be presented as industrial, serial way of organizing the production of cultural goods and services. They can be classified into five groups (Dragičević Šešić, Stojković, 2003, 233): *Serial multiplied works of art*: books, records and audio cassettes, video cassettes, films, and graphics and pre-production. These works can be purchased as objects - commodities (records, cassettes) or in the form of experience - the purchase of tickets for the film screening; *broadcast works of art or cultural programs*: the emission of radio and TV stations and studios; musical instruments: as means to create and compose music, but also when interpreted before an audience; *recording devices and reproducing works of art*: cameras, sound equipment, film projectors, radio and TV sets, recording players, cassette players; *amateur apparatus for everyday use*; professional equipment: supplies (paints, varnishes, developers, film and sound tape), necessary for the process of artistic creation or during the production of serialcopies. Also, the creative industries can be classified into three main groups (Dapp, Ehmer, 2011, 1): mainly market-based, culturerelated with the nature of a public good, and not clearly attributable segments with elements from both categories.

The common thing to all defitions is that creative industries refer to economic activities in which creativity significantly contributes to the creation of new value. It is based on ideas, not physical capital. Creative economy determines the economic, political, social, cultural and technological issues of our time, and is located between arts, business and technology. It is unique in that it relies on an unlimited global resource: human creativity (Van der Pol, 2008, 234). Caves lists seven basic characteristics of creative economy (Caves, 2000, 74):

- *Nobody knows principle*: Demand uncertainty exists because the consumers' reaction to a product are neither known beforehand, nor easily understood afterward.
- *Art for art's sake*: Workers care about originality, technical professional skill, harmony, etc. of creative goods and are willing to settle for lower wages than offered by 'humdrum' jobs.
- *Motley crew principle*: For relatively complex creative products (e.g., films), the production requires diversely skilled inputs. Each skilled input must be present and perform at some minimum level to produce a valuable outcome.
- *Infinite variety*: Products are differentiated by quality and uniqueness; each product is a distinct combination of inputs leading to infinite variety options (e.g., works of creative writing, whether poetry, novel, screenplays or otherwise).
- *A list/B list*: Skills are vertically differentiated. Artists are ranked on their skills, originality, and proficiency in creative processes and/or products. Small differences in skills and talent may yield huge differences in (financial) success.
- *Time flies*: When coordinating complex projects with diversely skilled inputs, time is of the essence.

- *Ars longa*: Some creative products have durability aspects that invoke copyright protection, allowing a creator or performer to collect rents.

Creative industries are mostly made up by micro and small enterprises, with lots of self-employed workers. Therefore, insecurity and low incomes are characteristic of this industry. Work and work processes are individualized and more flexible (Primorac, 2012, 24). However, macro potential is huge. Creative industry work-intensive, i.e. depends less on capital or technology investments and thus can create a high number of jobs within a short time (most of these at comparatively low cost) (Wiesand, Söndermann, 2005, 8). In Germany, over one million people work in creative professions as defined above. In 2009 they produced goods and services worth over EUR 60 bn – more than most branches of industry (Dapp, Ehmer, 2011, 1). Some \$640 billion was the value of the world's exports of creative goods and services in 2011, of which \$87 billion or 14 percent originated in the Americas (Inter-American Development Bank, 2014). Creative industry and its consumption is determined by the specifics of a particular country. However, there are some rules, for instance if the country is richer, its population consumes more of their income on culture and leisure (OECD, 2007). UNESCO states that the creative economy is significant for a particular country because of (UNESCO, 2015): freedom of expression, cultural diversity and economic development. Creative industry has an important role in post-conflict societies. Therefore, policies that encourage the development and growth of these industries should be a critical part of a country's comprehensive post-conflict reconstruction plan. (Basaninyenzi, 2012). This is especially important for Bosnia and Herzegovina, which is still to some extent going through the post-conflict period. Creative industries are in the focus of future actions by European Union. Europe 2020 strategy seeks to strengthen growth of employment and the creation of new industries by maintaining and supporting a strong, diversified and competitive industrial base in Europe. Focus of the strategy are cultural and creative industries that are very important drivers of economic and social innovation in other sectors (Generalne informacije o kreativnim industrijama, 2013).

### **3. Research of creative industries in Tuzla canton**

In order to show the state of creative industry in Tuzla Canton, we used collected secondary data, primarily from the report "Izveštaj o nalazima mapiranja i istraživanja kreativnog sektora pet gradova u istočnom dijelu Bosne i Hercegovine". Based on the map of creative sector from the report, by using simple random sampling, we selected sample for primary research. In the primary research, a total of 72 companies and individuals that fit the creative industry criteria, were questioned. They were all from Tuzla Canton (municipalities in the area of Tuzla Canton). Questionnaires were answered by telephone and by e-mail when the subject demanded to be examined in this way. We got responses from 72 creative subjects from total of 514 contacted.

#### **3.1. Analysis of the state of creative industries in Tuzla canton**

Largest number of questioned creative respondents are from the area of non-profit organizations/associations of citizens (total of 54,16%). This is followed by media (television, radio, newspapers and Internet portals) with 16.67%, as well as independent artists/entrepreneurs/freelancers and representatives of public institutions and associations (business associations, associations), both with 8.33% respondents. The smallest number of respondents came from the non-profit institutions (institutes and state agencies) – only 4.17%. All respondents stated that they considered themselves as a part of the creative sector (creative industries, economy). Most respondents said that they had their own working space (45.84%). Others have reported that they rent working space (29.16%), or use facilities free of charge (25%



of respondents). Respondents are doing their business on regional (37.5%), but also foreign (25%) and national (20.83%) markets. Some (16.6%) only focus on local markets. When asked whether they are members of a particular network, association or umbrella organization, the majority of respondents, 58.33% answered negatively, while 41.66% of respondents answered affirmatively. A large number of respondents had used certain government programs (83.33%). Others stated that they have never used programs of the government. Regarding current needs in carrying out creative business, the majority of respondents stated that they need financial resources (33.33%), as well as space and equipment for work (20.83%). Other answers included greater networking, strategies and support programs for the creative industry, as well as human and material resources. Respondents believe that the government can help them through financial support (58.3%) and 50% of them consider that the existing regulations regarding the creative industry are inadequate. Most of the respondents are familiar with the specific tax relief or other incentives for creative business. 79.16% of them stated that they know for some kind of benefits, while 20.83% of respondents are not familiar with the same. When it comes to the degree of satisfaction expressed on a five-point Likert scale, respondents are mostly satisfied with the cooperation with higher levels of government (3.37 rating) and cantonal authorities (3.12 rating). As for cooperation with local authorities, the average satisfaction rating was 2.6 (qualitatively: dissatisfied). Worst average grade of 2.37 is provided for the satisfaction with cooperation with other entities of the creative sector (qualitatively: completely dissatisfied).

### **3.2. Discussion of research results**

From the presented results, we can see that most members of creative industry in Tuzla canton belong to non-governmental sector (NGO or "Associations of citizens" as is the title of dominant legal form in this area). It is important to emphasize that the non-government sector includes a wide range of "creative services" that stretch from fine arts and music, folklore and traditional crafts through education, the organization of the festivals and general participation in certain events. Other dominant forms in creative industry of Tuzla canton include: media, independent artists/entrepreneurs/freelancers, public institutions, associations and non-profit institutions. Sample structure is partly similar to that of sample from research „Izvrještaj o nalazima mapiranja i istraživanja kreativnog sektora pet gradova u istočnom dijelu Bosne i Hercegovine“, where most respondents came from the area of independent artists/entrepreneurs/freelancers (39%), followed by non-governmental organizations (23 %). Majority of respondents are considering themselves as a part of the creative sector. This shows that the "creative people" are aware of their position in the economy and understand what it means to be a member of the creative industry. What is interesting to note is that lots of respondents have their own working space- total of 48.84% which is significantly higher compared to 30% as indicated in the above-mentioned research from 2013. Most of the respondents do business on regional markets which can imply canton, or district/region. 37.5% of respondents indicated that this is their primary market, which implies the importance of political actions by government at this level (cantonal ie. The Government of Tuzla Canton, in this particular case). Similarly, results from 2013. research, suggest that regional markets are the primary focus of creative industry (42%). Smaller number of respondents stated that their focus is on foreign (25%) and national (20.83%) market. Data supports the thesis about export orientation of the creative industry, as confirmed by The Center for Business Management (CPM) research, in which it was shown that more than 50% of creative industry members export their products/services (Kreativni sektor iz ugla kreativaca, 2014). What is problematic in this area is lack of networking, as evidenced by high number of 58.33% respondents who do not belong to a particular network, association or general umbrella organization. These results show potential for action towards further networking in creative industry which is extremely important because of the basic characteristics of this sector, that includes exceptional horizontal and vertical

connections. A significant part of the creative industry depends on government activities and has used certain government programs. This is completely understandable given the fact that the respondents were mostly non-governmental/non-profit organizations that are frequent applicants to project calls by state authorities of all levels of government in Bosnia and Herzegovina. Only 16.66% of respondents didn't use any of the government support program, although they indicated that they would vote for government benefits. As for the needs of the creative sector, a third of respondents believe that the financial funds are needed most. Some respondents required space and equipment for work, which can connect with those respondents who do not have their own working space. Research in this area from 2013, stated that equipment was the main need of creative industry. Members of creative industry in Tuzla canton are not satisfied with the existing regulations regarding the creative sector/industry/economy -50% of respondents think it is inadequate. In general, respondents are not familiar with the legislative in this industry. Most of them (79.16%) stated that they are familiar with the specific tax or other incentives for the creative business. However, at follow-up questions, the respondents did not give concrete answers. Respondents are mostly satisfied with the cooperation with higher levels of government and cooperation with cantonal authorities. In the Tuzla Canton, this means cooperation with cantonal, federal and state levels of government. As for cooperation with local authorities, they are dissatisfied. This primarily refers to cooperation with the municipal authorities, primarily the municipality of Tuzla. Worst grade is provided for satisfaction regarding cooperation with other entities of the creative sector. This assessment is particularly interesting in the context of improving weak networking in this sector. Paper will further explain this in the part referring to the research recommendations.

#### **4. Recommendations for improving the creative industries**

Based on the research results, it is possible to set certain conclusions and recommendations, primarily for decision makers in this area. The very perception of the importance of cultural and creative industries as a drivers of development in Bosnia and Herzegovina is quite low, and still in its early stages. Taking into account huge potential of this sector as a source of economic growth, creative industries should become part of development policies at all government levels. Investing in creative industries can contribute to job creation, poverty reduction and encourage development of new technologies with high impact on improving the overall quality of life. Public policies should aim to stimulate the development of creative industries, with the establishment of a system that will help the creation of creative clusters (Kreativna industrija u Kantonu Sarajevo, 2014). By doing this it is possible to use support of the European Union, from the program "Creative Europe", which is a framework program of the European Commission for supporting and promoting culture and media sector. The proposed program budget in period from 2014 to 2020 is 1.8 billion euros, which is the world's biggest single support amount for these industries.

Significant financial resources are now available for Bosnia and Herzegovina, so many members of domestic creative industry can benefit from the program. By accessing the "Creative Europe" program, country has formally become part of a broader creative space of the European Union (Kreativna industrija u Kantonu Sarajevo, 2014). Recommendations for the development of creative industries may be based on experience from neighboring countries that share similar cultural patterns. Some of the activities that create long-term sustainable model and strengthen the competitive advantage of the creative sector implemented by neighboring Croatia, include (Strateške smjernice za razvoj Kreativne i kulturne industrije, 2013, 2): Strengthening the institutional and infrastructural support for development of creative and cultural industries; Giving stronger support to research and development activities, innovation, experimentation and

entrepreneurship in the creative and cultural industries; The development of human resources; Improving access to finance; Acceleration of spill-over effects of creative and cultural industries to other industries and society at large.

These activities are crucial for Bosnia and Herzegovina and Tuzla Canton because there is no basic infrastructure for creative industry development. Country is also lagging regarding necessary research and innovation activities. Particularly interesting are spillover effects of creative industry, which on the long-term leads to synergistic effects and economic growth. As for neighboring Serbia, Jovičić and Mikić listed the following recommendations for the development of creative industry (Jovičić, Mikić, 2006, 89-92): Identification and recognition of creative industry, research of development needs, creation of development strategy, integrative approach, intersectoral cooperation, capacity building, development of infrastructure, market access, financing and development of sustainable local and regional markets. Much like in Croatia, the focus is on capacity building and creating basic infrastructure for creative industry. Also, it is important to identify key markets for creative industry products (mostly local and regional markets). On the basis of the research results, it is possible to list the following recommendations for decision makers, primarily the authorities in Tuzla Canton. It is necessary to work on:

- increasing the sources of financing for creative industry - need to develop specific programs of financial support for creative industry of Tuzla Canton. Most creative people considered that the financial support is the best form of government assistance. In doing so, it is possible to use direct grants as a means of encouragement, but also participate in the establishment of credit guarantee funds i.e. the provision of credit lines for members of the creative industry. Moreover, there are potential foreign donors, but also the European Union in accordance with the "Creative Europe" program.
- the development of networks within the creative industry and creating connections with other industries - it is necessary to work on stronger networking through the establishment of various forms of networks (associations, umbrella organizations, associations of associations, etc.). Authorities should promote networking among creative people, and encourage them to jointly apply to specific support programs or to participate in some other industries in order to create a synergy effect of spillovers (positive externalities from creative industries).
- strengthening the infrastructure capacity for creative industry - authorities and decision makers in Tuzla Canton should work on strengthening the capacities of basic infrastructure. It is possible to work on the opening of special facilities that will provide a given support (e.g. business incubators/centers for creative people). Working space and equipment represent a significant need for this industry, so government should take advantage of unused public space for creative purposes. Scanning the infrastructure will help determine which supports, services, and resources might be present and their capacity to leverage creative sector development (Wyszomirski, 2004, 27).
- facilitating access to markets - local and cantonal authorities should, together with the creative industry, facilitate access to certain markets. Creative people do not have enough knowledge in the field of law, especially regarding exports, so it is necessary to create free legal assistance for members of the creative industries, as well as other forms of support (market research, promotion, agreements with counterparts in other cities, regions, countries, etc.).

- promoting the creative sector as a model of (self)employment - in the country with about 40% of the unemployed, of which 57.9% unemployed young people, the creative industry makes one of the solutions to tackle unemployment. This is especially true for the Tuzla Canton, as the most populous bosnian canton (with the highest number of unemployed people). Together with the NGO sector and the media, it is necessary to work on promoting the creative industry potentials, highlighting its importance and opportunities, and creating employment patterns.
- improving the business environment and the legislation - one of the main problems identified by creative industry members relate to poor business environment and legislation that does not follow the needs of this sector. It is therefore in the interest of all levels of government, to work to facilitate business conditions. These activities are already planned in the framework of the Reform Agenda 2015-2018. But it is necessary to make additional efforts in order to focus on creative industry.

Finally, in addition to financial support, UNESCO puts the focus on the protection of intellectual property as a basis for the development of creative industries. This is under the jurisdiction of state level of government in Bosnia and Herzegovina.

## 5. Conclusion

Creative industries primarily rely on human intellect and creativity as their ultimate sources of new market value. For this reason, creative industry has potential for (self)employment, but also "market jumps" for small, underdeveloped or transition economies. With particular technology and minimum amount of financial resources, it is possible to bring creative products/services on the global market. That is why, creative industries are mainly export-oriented, and they get their full manifestation before a global audience. High growth in this sector, even in times of economic crisis, positive changes in consumer preferences and further globalization, with new EU integrations, makes creative industries interesting for decision makers in Bosnia and Herzegovina, particularly Tuzla Canton, that is the most populous bosnian canton. The biggest problems of this sector include the lack of financial support, poor networking and basic infrastructure needs. Therefore, economic policies by cantonal and local authorities in Tuzla Canton, should contain mechanisms for overcoming financial difficulties for creative people and increasing networking capacity in the creative industry. This could create spillover effects of positive externalities for other areas of the economy. In the long term, the creative sector has great potential, both for employment and for the realization of exports and economic growth of Tuzla canton.

## REFERENCES

- Basaninyenzi, U. (2012): *Rwanda's Artful Path Toward Peace: Cultural Industries and Post-Conflict Reconciliation*, <http://blogs.worldbank.org/publicsphere/rwanda-s-artful-path-toward-peace-cultural-industries-and-post-conflict-reconciliation> (accessed 20 March 2016)
- Caves, R. E. (2000): *Creative Industries: Contracts between Art and Commerce*, Harvard Univ. Press, Cambridge
- Creative Industries Education in the Nordic Countries*, (2007), Kultur & Kommunikation for Nordic Innovation Centre, Oslo

*Creative industries in the knowledge economy*, (2014), [http://www.oecd-ilibrary.org/industry-and-services/tourism-and-the-creative-economy/creative-industries-in-the-knowledge-economy\\_9789264207875-4-en](http://www.oecd-ilibrary.org/industry-and-services/tourism-and-the-creative-economy/creative-industries-in-the-knowledge-economy_9789264207875-4-en) (accessed 15 March 2016)

Basaninyenzi, U. (2012): *From Kigali to Kabul: The Role of Art in Post-Conflict Reconciliation*, <http://blogs.worldbank.org/category/tags/creative-industries> (accessed 20 March 2016)

*Creative Industries*, (2016), UNESCO, <http://www.unesco.org/new/en/culture/themes/creativity/creative-industries/> (accessed 20 February 2016)

Dapp, T.F., Ehmer, P. (2011): *Cultural and creative industries, growth potential in specific segments*, Deutsche Bank Research, Frankfurt am Main

Dragičević Šešić, M., Stojović, B. (2003): *Kultura: menadžment, animacija, marketing*, CLIO, Beograd

*Generalne informacije o kreativnim industrijama*, (2013), <http://pixel.ba/kreativne-industrije-eu/> (accessed 18 March 2016)

Henry, C. (2007): *Entrepreneurship in the Creative Industries, An international perspective*, Edward Elgar Publishing Limited, Northampton

Howkins, J. (2001): *The Creative Economy: How People Make Money From Ideas*, Penguin, London

*Strateške smjernice za razvoj Kreativne i kulturne industrije*, (2013), Hrvatski klaster konkurentnosti kreativne i kulturne industrije, Zagreb

*OAS, IDB, and British Council present the study "The Economic Impact of the Creative Industries in the Americas"*, (2014), Inter-American Development Bank, <http://www.iadb.org/en/news/news-releases/2014-01-16/economic-impact-of-the-creative-industries-study,10735.html> (accessed 18 March 2016)

Jovičić, S., Mikić, H. (2006): *Kreativne industrije, preporuke za razvoj kreativne industrije u Srbiji*, British council, Beograd

Košar, M., Trifković, R., (2013): *Izveštaj o nalazima mapiranja i istraživanja kreativnog sektora pet gradova u istočnom dijelu Bosne i Hercegovine*, Omladinska informativna agencija, Sarajevo

*Kreativni sektor iz ugla kreativaca*, (2014), Centar za politike i upravljanje, <http://www.cpu.org.ba/publikacije/infografika-kreativni-sektor-iz-ugla-kreativaca/> (accessed 10 March 2016)

Landry, C., Bianchini, F. (1995): *The Creative City*, Demos, London

*OECD Factbook 2007 – Economic, Environmental and Social Statistics*, (2007), OECD Publishing, Paris

Perinić, L. (2010): *Kreativni gradovi: uzroci i posljedice*, Drugost, No.1. Svibanj 2010., Zagreb

Primorac, J. (2012): *Od nesigurnosti do nesigurnosti: Rad i zaposlenost u kulturnim i kreativnim industrijama*, Revija za sociologiju, Vol.42 No.1 Travanj 2012., Zagreb

Tomašević, N. (2013):*The nomenclature of publishing activities within the framework of creative and cultural industry*, Libellarium : časopis za istraživanje pisane riječi, knjige i baštinskih ustanova, Vol.6 No.1-2 Ožujak 2014., Zadar

*Creative Industries*, (2015),

UNESCO<http://www.unesco.org/new/en/culture/themes/creativity/creative-industries/> (accessed 12 March 2016)

Van der Pol, H. (2008):*Key role of cultural and creative industries in the economy*, Statistics, Knowledge and Policy 2007, UNESCO Institute for Statistics, Canada

Wiesand, A., Söndermann, M. (2005):*The 'creative sector' – an engine for diversity, growth and jobs in Europe*, European Cultural Foundation, Amsterdam

Wyszomirski, M. (2004):*Defining and Developing Creative Sector Initiatives*, The Ohio State University, Columbus

*Projektni zadatak za izradu studije: Kreativna industrija u Kantonu Sarajevo*, (2014), Zavod za planiranje Kantona Sarajevo, <http://zpr.ks.gov.ba/nabavke/zahtjev-za-dostavu-ponude-za-izradu-studije-kreativna-industrija-u-kantonu-sarajevo>(accessed 11 March 2016)

**Ivana Dražić Lutilsky, PhD.**

Faculty of Economics and Business, University of Zagreb

Trg J. F. Kennedyja 6, 10000 Zagreb, Croatia

Phone: +385 1 238 3408, Fax: +385 1 233 5633

E-mail address: idrazic@efzg.hr

**Martina Dragija, PhD.**

Faculty of Economics and Business, University of Zagreb

Trg J. F. Kennedyja 6, 10000 Zagreb, Croatia

Phone: +385 1 238 3408, Fax: +385 1 233 5633

E-mail address: mdragija@efzg.hr

**Petra Trbojević, MA.**

Tuki Primorac d.o.o., Zagreb, Croatia

Phone: +385 91 7948857

E-mail address: petra.trbojevic@yahoo.com

**ACCOUNTING TREATMENT AND MANIPULATION WITH THE  
CORPORATE INCOME TAX OF THE SMALL LIMITED LIABILITY  
COMPANIES**

**RAČUNOVODSTVENI TRETMAN I MANIPULACIJE POREZOM NA  
DOBIT U MALIM PODUZEĆIMA**

**ABSTRACT**

*Manipulation with corporate income taxes has become increasingly attractive in today's business world in the Republic of Croatia because of large payments to the state if the company does business with a profit at the end of the financial year. Specifically, mentioned payments have directly inappropriate influence on small companies, which tend to find ways to legally avoid or achieve less payment of corporate income tax. During the preparation of annual financial statements and the application of the tax return form, it is possible to use a variety of "tools" to manipulate with tax base. This paper will present the most commonly used methods of manipulating with tax base. The goal of this paper is to show that small companies mostly use corporate income tax Law for their accounting policies instead the accounting standards. In order to prove that the research was conducted through questionnaire on 51 small limited liability companies through the bookkeeping services, which are preparing the financial statements for small companies.*

**Key words:** tax income, tax base, manipulation with income tax, annual financial statements

**SAŽETAK**

*Manipulacije porezom na dobit postaju sve atraktivnije u današnjem poslovnom svijetu Republike Hrvatske radi velikih davanja prema državi ukoliko poduzeće posluje sa dobiti na kraju poslovne godine. Konkretno, navedena davanja izravno nepogodno utječu na mala*

*poduzeća te se pronalaze razni načini kako legalno izbjeći ili postići što manje plaćanje poreza na dobit. Prilikom izrade godišnjih financijskih izvještaja i prijave PD obrasca moguće je koristiti razne „alate“ kako bi se izmanipuliralo poreznom osnovicom. U ovom radu bit će prikazani najčešće korišteni načini manipuliranja poreznom osnovicom. Ciljevi rada su prikazati teoretsku osnovu o porezu na dobit i manipulacijama poreznom osnovicom, istaknuti najčešće načine manipuliranja poreznom osnovicom te zaokružiti cjelinu istraživačkim dijelom u obliku anketnih upitnika na koji način mala poduzeća pristupaju istom u komunikaciji sa računovodstvenim servisima te na koji način računovodstveni servisi postupaju pri izradi godišnjih financijskih izvještaja, odnosno rezultatu poslovanja malih poduzeća kod iskazivanja porezne osnovice.*

**Ključne riječi:** porez na dobit, porezna osnovica, manipulacije porezom na dobit, godišnji financijski izvještaji

## **1. Introduction**

Companies in Croatia are mandatory in the preparation of financial statements to apply the International Financial Reporting Standards and Croatian Financial Reporting Standards, as well as legislation, primarily the Corporate Income Tax Law (further CIT Law), which have a significant impact on financial reporting. Corporate income tax payers are those legal and natural persons that in the records of business events in accounting, applied accrual accounting basis. Accrual accounting basis require that effect of transactions should be recognized when they are incurred rather than when it is generating receipt or expenditure of money or its equivalent. According to the Corporate Income Tax Law (Official Gazette 148/13), the tax base is the accounting income or profit, which is determined according to the accounting regulations as the difference between revenues and expenses increased and decreased according to the CIT Law. This leads to differences in accounting income and tax base of income tax. The differences arise because some revenue is not included in the tax base, and some expenses are not recognized in the determination of the tax base. Because of these differences, it is possible that the company realize accounting income and loss for tax purposes. The differences can be temporary or permanent character. The main hypothesis is that *small companies in Croatia manipulate with accounting categories for payment of Corporate Income Tax.* In this context, the subject of this paper is the impact of the CIT Law on accounting treatment of different categories in the financial statements of Croatian small companies. Also, the goal is to examine whether the owners are seeking manipulation with the tax base in order to have lower tax liabilities. Accounting standards require that the financial statements present a true and fair information about the business and tax regulations partly hampered by these requirements specially while determining accounting policies or preparation of financial statements.

## **2. Influence of Corporate Income Tax Law on financial reporting in Europe**

The variations in the connections between corporate tax and financial reporting have been discussed by a number of authors (e.g. Hoogendoorn, 1996; Lamb et al., 1998). Hoogendoorn (1996) classified a number of important European countries according to the strength of the tax influence on the financial statements as follows (Aisbitt, 2002):

- Accounting and taxation are dependent and this is not expected to change. There is no or hardly any regulation regarding accounting for deferred taxation, and as a result several alternatives are allowed. In practice, both



individual and group accounts are normally influenced by taxation. Countries belonging to this group are Belgium and Italy.

- Accounting and taxation are dependent and this is not expected to change. There is some regulation regarding accounting for deferred taxation. Taxation does not normally influence group accounts. France belongs to this group, as does Germany; although Germany also has the characteristics of group 1 (very limited regulation).
- Accounting and taxation are still dependent, but there is a clear development towards an independence structure. There is no strict regulation accounting for deferred taxation. Countries belonging to this group are Finland and Sweden.
- Accounting and taxation are formally independent, but in practice there is still a tight link. There is no strict regulation regarding accounting for deferred taxation. Countries belonging to this group are the Czech Republic and Poland. Accounting and taxation are independent. Regulation regarding deferred taxation allows several alternatives. Denmark belongs to this group.
- Accounting and taxation are independent. There is a specific regulation regarding accounting for deferred taxation, of which the main characteristic is the required use of partial tax allocation. Countries belonging to this group are Ireland and the UK.
- Accounting and taxation are independent. There is a specific regulation regarding accounting for deferred taxation that is very similar to IASC E49, characterised by full recognition, application of the liability method, deferred taxes on revaluation, and the recognition of deferred tax assets. Countries belonging to this group are The Netherlands and Norway.

Republic of Croatia could be put in the same group as France and Germany, since after the breakdown of Yugoslavia, Croatia took over a part of German legislative and German experts created the Croatian Tax system. In a number of other continental European countries, tax regulations were historically more detailed than accounting regulations. This situation allowed tax to dominate (Aisbitt, 2002). As a result of this heritage there is less temporarily differences in financial statements. However, there is a possibility of hidden temporarily differences as a result of use of tax principles while composing financial statements for general use. At the same time some European countries have been seeking to increase the distance between tax and financial reporting. The result of this system is two sets of financial statements, one for general use and one for taxation purposes, and also greater number of temporarily differences. Latest research (e.g. Gielen, 2006) on relationship between Financial and Tax reporting are done in the contexts of IFRS adoption. Following table is pointing out the harmonization and reliance of tax and annual financial statements. It illustrates tax basis and result of IFRS use on tax basis in selected EU countries.

**Table 1** *The relationship between Financial and Tax Reporting and the possible Effects of the Utilization of IFRS on that relationship*

Country	Relationship between Financial and Tax Reporting	Tax basis	Effects of the Utilization of IFRS on that relationship
Belgium	Tax rules follow accounting principles in Belgium allowing certain adjustments	Annual accounts prepared in compliance with Belgian accounting	Limited by not currently permitting the presentation of annual

Country	Relationship between Financial and Tax Reporting	Tax basis	Effects of the Utilization of IFRS on that relationship
	between the “financial” and “taxable” profit	standards	accounts in compliance with IFRS
Denmark	Annual accounts are independent of tax rules in Denmark	Tax books prepared according to Danish tax rules	Limited as tax reporting is independent from financial reporting
Estonia	Unique framework as tax base is from distributions not profits	Distributions to shareholders	Limited as tax computation is assessed based on the distributions to shareholders
France	Tax rules follow accounting principles in France	Annual accounts prepared in compliance with French accounting standards	No direct impact as not allowable for tax reporting but as French GAAP is converging with IFRS there is an impact but it is measured and controllable
Germany	Accounting principles follow tax rules in Germany	Annual accounts prepared in compliance with German accounting standards	Limited by allowing IFRS for informational purposes only
Luxemburg	Accounting principles follow tax rules in Luxembourg Tax profit is similar to accounting profit allowing for certain adjustments between the “financial” and “taxable” profit	Annual prepared in compliance with Luxembourg accounting standards	Limited by requiring a reconciliation back to tax reporting requirements
Poland	Annual accounts are independent of tax rules in Poland. A reconciliation between taxable profit and financial profit is a mandatory note to the annual accounts	Tax books prepared according to Polish tax rules	Limited as tax reporting is independent from financial reporting
Netherlands	Annual accounts are independent of tax rules in the Netherlands	Tax books prepared according to Dutch tax rules	Limited as tax reporting is independent from financial reporting

Source: Gielen, F.: *IFRS and Taxation*, World Bank, presentation at REPARIS – World Bank Conference held in Vienna, 15<sup>th</sup> and 15<sup>th</sup> March, 2006.

### 3. Connection between financial statements and Corporate Income Tax basis in Croatia

Looking back, International Accounting Standards/International Financial Reporting Standards (further in text IAS/IFRS) in Croatia are in use since 1993. Their use is regulated in Accounting Act since then. New Accounting Act from 2007 regulated use of IAS/IFRS for all large entrepreneurs listed on the stock exchange or those who voluntarily choose to use them. All others use standards developed by Croatian Financial Accounting Standards Board

which has developed Croatian Financial Reporting Standards (further in text CFRS) which are including regulations contained in 4<sup>th</sup> and 7<sup>th</sup> EU Directives. Those national standards are in use since 2008. Which means that from 1993 till 2007 small and medium companies (further in text SME's) were using IAS/IFRS. In other words, today, there are two sets of accounting standards in Croatia for composing financial statements. The tax base is the profit determined pursuant to the accounting regulations as the difference between revenues and expenses before the profit tax assessment, increased and reduced in accordance with the differences of Corporate Income Tax Law. According to that, differences determined to the accounting regulations can be divided into two groups (Dražić Lutilsky, 2005):

1. permanently non-recognised expenses/revenues (permanent differences);
2. temporarily non-recognised expenses/revenues (temporary differences).

Permanent differences between accounting profit and the tax base in revenue most frequently emerged in inclusion into the revenue of a company of the amounts, which were already taxed, such as dividends and shares in profit. Each taxpayer has to provide in his accounting the necessary data on expenses and revenues, which have a characteristic of permanent differences.

Permanent differences in expenses emerge because the amounts of expenses reported in profit and loss statement for tax purposes are **permanently tax non-deductible expenses**. In the procedure of determining the profit tax base the amounts of permanently tax non-deductible expenses increase the accounting profit. The effect of tax non-deductible expenses is also evident in the higher rate of the share of profit tax in accounting profits in comparison with the prescribed profit tax rate. Permanent differences in expenditures/revenues emerge because the amounts of expenditures/revenues reported in financial statements are permanently tax non-recognised expenditures/revenues.

Permanently tax non-deductible expenses include (Corporate Income Tax Law, Official Gazette 143/14):

- 70% of representation costs;
- 30% costs incurred in relation to ownership of rented motor vehicles and other means of personal transportation of executives, managers, and other employed persons, if salary is not calculated on the basis of the use, except for insurance and interest costs;
- gift expenses amounting to more than 2% of earned revenue in the previous year;
- disguised payment of profit;
- costs of forced tax collection or other expenses;
- costs related to private life of shareholders and members of the company;
- penalties pronounced by a competent body;
- default interest between related parties;
- interest calculated by related parties above the level determined by the minister of finance;
- all other expenses not directly related to making profit.

Tax basis before temporary differences is the amount of the profit determined pursuant to the accounting regulations corrected with the above stated revenues and expenses, which have characteristic of permanently non-recognised revenues/expenses. When this amount, tax basis

before temporary differences, is corrected with temporary differences and decreased for tax relief, exemptions and incentives tax basis is derived. Calculated tax basis is defined as basis for the calculation of profit tax, which amounts 20% of tax basis.

According to IAS 12 – Income Taxes temporary differences are differences between the carrying amount of an asset or liability in the balance sheet and its tax base. In other words, temporary differences in expenses are differences between accounting profit and the tax base because **tax deductible** expenses are included in different periods (different years) in assessing business results (accounting profit or loss). In revenue, temporary differences emerge in revenues which are included in the calculation of company’s performance and profit tax base, but in the establishment of the profit tax base and accounting profit they are included in different business years. Temporary differences emerge in one or more periods, and are cancelled in one or more periods. Tax impacts of temporary differences are reported in the accounting of profit tax payers as an assets item (deferred tax assets) or as a liabilities item (deferred tax liabilities).

In tax regulations in Croatia temporary differences which result in tax impacts reported in liabilities as *deferred payment of profit tax* are not allowed. This arises from the provisions which specify that only the amounts of expenses reported in accounting as operating expenses may be recognized as expenses for tax purposes. For revenues those provisions are the same according to which all amounts of revenue reported in accounting as operational revenue are considered as revenue for tax purposes (Spajić, 2006). Possible temporary differences in Croatia are shown in Table 2.

**Table 2 Possible temporary differences in Croatia**

<b>Expenses</b>	<b>Recognised for tax purposes</b>
Value adjustments of inventories of raw material, finished products, and merchandise	for this type of expenses it is stipulated that they are tax deductible expenses in the period in which the inventories are sold, destroyed, or used otherwise
Impairment of stocks, business shares and other financial assets (non-realized losses)	for this type of expenses is stipulated that they are tax deductible expenses in the period in which assets are sold, or in the period in which losses were incurred
Decreases in outstanding debts from buyers	-tax deductible expenses if they are not paid up to 15 days prior to the submission of tax return and if 60 days have elapsed from the maturity date until December 31; -expense is tax deductible only if reported in accounting -tax non-deductible expense are decreases of other outstanding debts from buyers if they are not actionable
Provisions	<ul style="list-style-type: none"> <li>• provisions for the cost in the warranty period;</li> <li>• provisions for the costs of the ongoing court disputes;</li> <li>• provisions for retirement;</li> <li>• provisions for the recovery of natural wealth;</li> <li>• provisions for unused vacation days.</li> </ul> -Provisions in banks for potential losses, but no more than it was set by Croatian National Bank (central bank)

Expenses	Recognised for tax purposes
	-provision in insurance Companies that are in relations and obligatory by insurance law
Depreciation/amortisation	If calculated depreciation/amortisation in accounting is higher than calculated by the Corporate Income Tax Law

*Source: Corporate Income Tax Law, Official Gazette 143/14.*

We can conclude that Croatian taxpayers could be split in to two groups: one that for financial reporting uses IFRS and other that use CFRS. In other words, usage of different set of methods (standards) for financial reporting results with different accounting profit that is a starting amount in determining tax base.

Based on experience in using of IAS from 1993 it is possible to say that in Croatia tax regulation have important role in financial reporting. The authors concluded that this is result of historical links with continental (German) approach where tax dominates; deferring the payment of profit tax is conditional with deferring recognition of profit which results with hidden temporary differences.

SME's where forced by the Accounting Act from 1993 till 2007 to use IAS/IFRS and it was very difficult for SME's to apply all the IAS/IFRS. So, Croatian SME's are mostly using Corporate Income Tax Law and Value Added Tax Law because it is simpler and then they are not obligated to prepare two sets of financial statements but only one which can be used in both purposes: tax purpose and owner purpose.

Domination of tax regulation is a little bit lower in companies that are obligate to conduct audit of financial statements because auditors are much more concerned with right application of accounting standards. Situation in other companies (that aren't obligate to have audit of financial statements) is different. In this companies influence of tax regulation is higher and much more important. This is result of fact that usage of accounting standards in these companies isn't supervised and usage of tax regulation is supervised by Ministry of finance – Tax Authorities. In goal of simplifying reporting companies use tax regulation in measurement of financial statement elements because on this way they can eliminate differences between financial statements and profit tax return. Result of this is existence of hidden temporary differences.

#### **a. Previous research about influence of CIT on financial reporting**

Research conducted by Novosel – Belavić (2012) had an aim to show the extent to which tax regulations are affecting the fair and objective presentation of financial statements in SMEs. Further in this paragraph, the authors will present the main results of that research. This empirical research, which involved 86% of small companies, 10% of medium and 4% of large companies shows that all small businesses in the sample, the advantage in preparing the financial statements give to a tax regulations, but even a significant number of medium-sized companies (42%) and some large companies (22%). According to the results obtained from the conducted research it is visible that 89% of companies prefer tax regulations for the recognition of items in the financial statements. Conducted research confirms a complete orientation of small businesses towards tax regulation when recognizing items in accounting, preparing financial statements, and when using accounting information for decision making. Small businesses, given the profile and structure of administration and accounting staff are

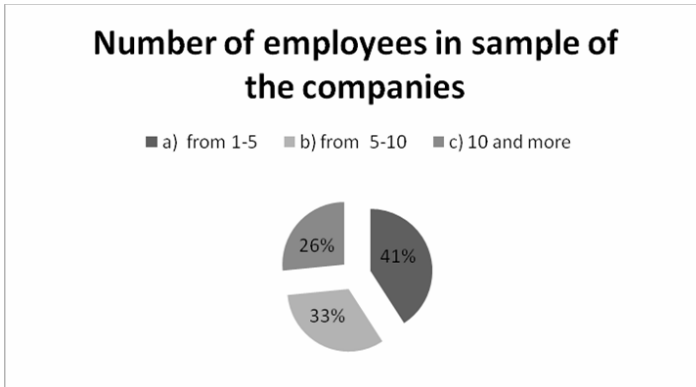
prone to choose tax regulations, because there are no controls for them only by the tax authorities, since most are not liable to audit. The legislator should adapt tax regulation to accounting standards and strive to reduce the difference between the results of operations determined on the basis of accounting standards and on the basis of tax regulations. In this way, financial statements would objectively show the positions in financial statements. Small businesses are mainly focused on the preparation of financial statements for external users, which are usually tax administration, financial agencies and banks. The management of small businesses is often a single person, the owner of the company, which is not interested in fair and objective presentations of positions in the financial statements. The reason for that is because they think that the primary purpose of financial reporting is application of the tax regulations in order to determine the basis for calculation of corporate income tax. Above all, small businesses are not in most cases liable to auditing of the financial statements, which is another reason for not using the accounting standards in preparation of financial statements.

Results of these empirical research shows that SMEs in Croatia are using high rates of depreciation (doubled depreciation). Because of that, costs are higher and the basis for the calculation of income tax is lower which leads to lower tax liabilities. During turbulent days of uncertainty and debt collection and low liquidity of companies in Croatia, small and medium companies value adjust their receivables according to the guidelines defined by the Corporate Income Tax Law. That does not reflect the existence of objective evidence that the receivables are disputed. The consequence of that is unrealistic and overstated position of current assets in balance sheet and profit in income statement. Inventory value adjustments half of small companies do not even carry out and those which value adjust inventories are doing it based on the tax regulations, while only a small number of companies are doing value adjustments of inventories in accordance to the accounting standards. Therefore, it can be concluded that small companies in Croatia often do not value adjust receivables and inventories, and they do not use the opportunity or show the need for objective presentation of financial result.

#### **4. Research design and methodology**

The purpose of the empirical part of this paper was carried out in the form of a questionnaire to a sample of 51 limited liability companies, which are liable to CIT. The questionnaire contains 10 questions. This research was conducted in order to analyse the manipulation with CIT and accounting treatment of accounting categories (Trbojević, 2015). The questionnaire was sent to accounting companies that provide bookkeeping service for small companies. They were asked to give feedback on the presentation of the annual financial statements according to the preferences of the owner in accordance to CIT. The subject of research are small businesses, a legal form of a limited liability company. The study included 9 accounting companies which provide bookkeeping service for different small companies of various activities (trade, marketing, construction, wholesale, accounting, etc.). They have provided answers for 51 small companies. The focus of empirical research is on the issues of requirement by the owners of small businesses to manipulate tax base in any form and by pulling action when generating profit. Also the focus is to analyse the use of accounting standards and tax regulations during the preparation of annual financial statements and whether they express temporary differences in financial statements due to the different recognition of revenues and expenses.

**Figure 1** Number of employees in sample of the companies

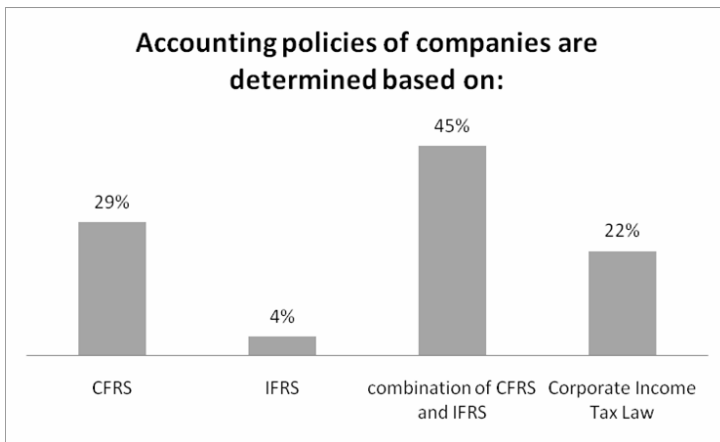


Source: empirical research

Figure 1 shows that the sample consists of small businesses by the number of employees. Of the total number of the sampled companies, 41% had up to five employees while 26% have 10 or more employees. According to the classification of entrepreneurs based on the Accounting Act, small businesses have up to 50 employees.

In Figure 2 is visible the type of regulations or standards, which bookkeeping service companies of small businesses in the sample prefer with the recognition of revenues and expenses while determining accounting policies.

**Figure 2** Determination of accounting policies in sampled companies

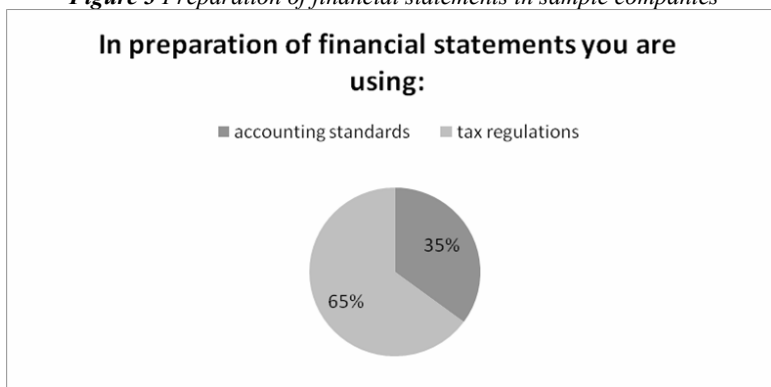


Source: empirical research

The study showed that companies in the sample, when selecting accounting policies, greatest attention attach to combining Croatian Financial Reporting Standards and International Financial Reporting Standards. This question applies only to the general policy in accounting

of companies in the sample. The recognition of revenues and expenses for the preparation of annual financial statements, are visible in Figure 3 and the results changes significantly.

**Figure 3** Preparation of financial statements in sample companies

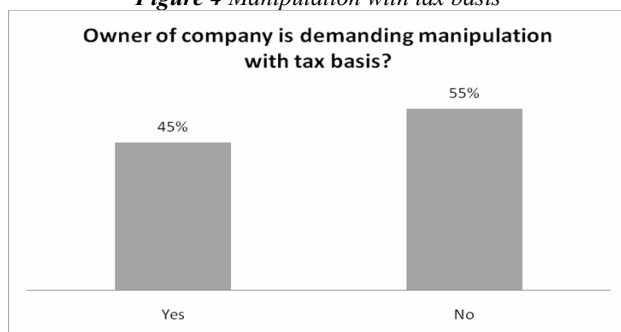


Source: empirical research

A total of 65% of sample companies, in recognition of revenues and expenses and preparing the financial statements give priority to tax regulations. Thus, one can conclude that small companies give maximum priority to tax regulations, in particular the CIT Law, in the preparation of the financial statements and the recognition of revenues and expenses in accounting. Tax regulations must be observed when preparing the financial statements for the tax authorities and external users. Internal users should see the financial statements based on fair and objective presentation of assets, liabilities, equity, income and expenses based on accounting policies due to the accounting standards. It is evident that small businesses do not prepare two sets of financial statements, but reports exclusively based on tax regulations and do not attach importance to financial reporting based on fair reporting in accordance with accounting standards.

Very interesting question conducted through a questionnaire refers to the preference by the owner of the company regarding the manipulation of the tax base. The following Figure shows the preferences of the owner when making the annual financial statements.

**Figure 4** Manipulation with tax basis



Source: empirical research



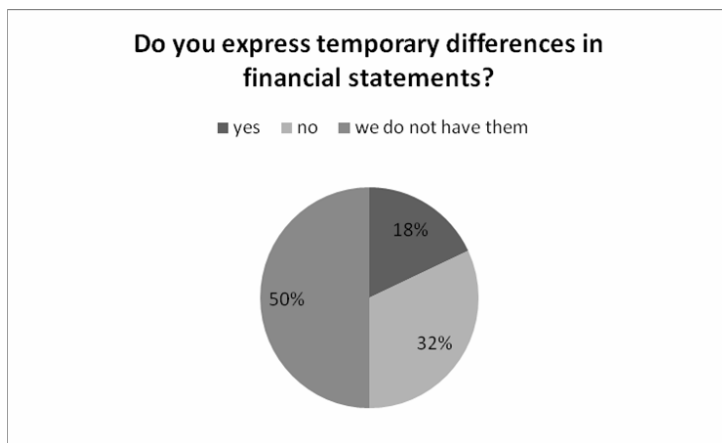
In the study sample, 55% of them responded that they do not seek to manipulate tax base while 45% of them are asking from their bookkeeping service to manipulate with the tax base.

The most common ways of manipulating tax base are reinvestment of profits; accounting for accrued liabilities (expense for the period for which by the end of the financial year has been invoice received); the use of accelerated depreciation rates; value adjustment of receivables; costs of education and training; research and development costs and the tax allowable provisions (provisions for expenses for unused vacation, provisions for litigation started) (Cinotti, 2012).

Based on the experience of auditing practices in Croatia it can be concluded that there are three main motives for manipulation with accounting categories (Gajić, Dražić Lutilsky, 2012, 105):

- 1) understatement of the results of the financial year, the overstatement of liabilities, and understatement of assets (to reduce the profit tax);
- 2) Exaggeration of the results of the financial year, understatement of the liabilities and an overstatement of assets (in order to create the image of success - credibility);
- 3) Fraud- misappropriation of assets.

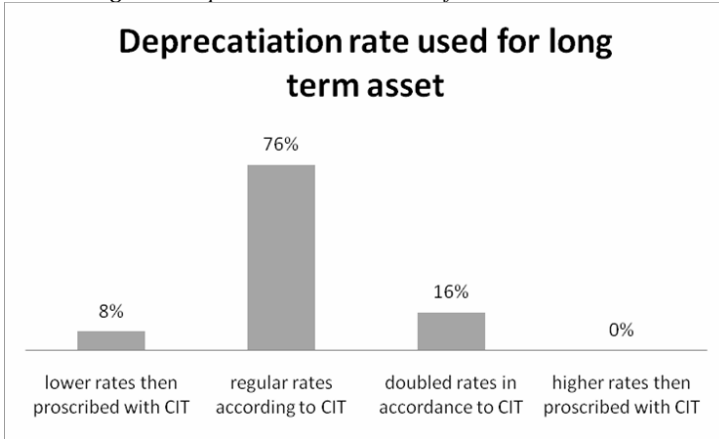
*Figure 5 Temporary differences expressed in financial statements*



*Source: empirical research*

Temporary differences arise when the expenses or revenues under tax regulations and accounting standards are not recognized in the same accounting period. In subsequent periods, when the necessary conditions are fulfilled there is a termination of the temporary differences. Looking at the results about temporary differences, it is visible that 50% have no temporary differences and 18% have temporary differences while 32% does not express temporary differences as a result of favouring tax regulations in preparing the financial statements.

**Figure 6** Depreciation rates used in financial statements



Source: empirical research

Temporary differences on the basis of depreciation/amortization of tangible and intangible assets arise when depreciation for tax purposes, according to the CIT Law, is computed slower than accounting depreciation or when accounting depreciation is calculated at a rate greater than the maximum tax deductible rate. This creates temporary difference which represents deferred tax assets (Čevizović, 2007). In this case, the taxpayer should pay more income tax than it arises from accounting profit, and part of the amount of depreciation over tax allowable amount represents temporarily non-deductible expense. The amount of overpaid tax in relation to the accounting profit should be recorded as a deferred tax asset. In subsequent periods, the entrepreneur will be able to take advantage of that deferred tax assets. Taxpayers can calculate depreciation at the rate lower than the tax allowable, but in this case that does not arise any temporary differences, because under the CIT provisions, such accrued depreciation is considered to be tax deductible or tax-deductible expense (Čevizović, 2007).

**Table 3** Annual depreciation rates

Asset	Useful life	Regular tax deductible rate	Useful life	Doubled tax deductible rate
buildings and ships of over 1,000 GRT	20	5%	10	10%
basic herd and personal cars	5	20%	2,5	40%
intangible assets, equipment, vehicles (except personal cars) and machinery	4	25%	2	50%
computers, computer hardware and software, mobile telephones and computer network accessories	2	50%	1	100%
other non-mentioned assets	10	10%	5	20%

Source: Corporate income tax Law

Previous table shows depreciation/amortization rates regulated by the CIT Law. However, the same Law allows the annual depreciation rates to be doubled. It is important to have in mind if one uses doubled rates for taxation purposes the same must be used for accounting purposes. From the above stated it can be concluded that «by very high annual amortisation rates the Government enables deferring payments of profit tax» (Spajić, 2006), but in same the specific of tax regulation is that it makes deferring the payment of profit tax conditional on deferring recognition of profit. Taxpayers depreciate their tangible and intangible assets, and thus increase expenses and reducing the tax base and because of that depreciation are a very interesting instrument for tax planning. The tax regulations are allowing shorter depreciation life of the actual useful lives and that leads to legal delay in CIT paying. This led to a distortion of the financial position and performance of the enterprise, but it has a positive impact on cash flow because the company has delayed payment of income tax and it represents an interest free loan to the company (Čevizović, 2007).

The research results shows that for depreciation rate and useful life of asset which are used for depreciation/amortization of long term asset, 92% of the companies are relying on tax regulations and only 8% of companies on accounting standards. As said previously, CIT Law allows choice between two tax deductible rates for all long – term asset but also it allows lower rates then proscribed (which has to be used then for accounting and for tax purposes), but it does not allows rates higher than doubled rates proscribed by CIT Law. Analysis of the sample shows that 8% of companies are using lower rates then proscribed by CIT Law, 76% of companies are using regular rates that are tax deductible, 16% of companies are using regular doubled rate that are tax deductible and not one company is using higher rates then proscribed by CIT Law.

From those results one can conclude that small companies are using financial effects allowed under CIT Law regarding depreciation/amortization in accounting because they are determining useful life of their asset based on CIT Law, which leads to the extortion of financial statements.

Under Croatian CIT Law only linear method is allowed and the results show that all companies from the sample are using that method for depreciation/amortization of their asset which is also showing huge impact of CIT Law on accounting of companies. Since, depreciation/amortization is considered to be an accounting policy we can conclude that while determining accounting policies small companies are strongly relying on CIT Law.

## **5. Conclusion**

What is important to point out that 55% of small businesses does not require manipulation of tax base and decides to pay regular income tax. Also, an important conclusion is that small businesses comply with statutory tax regulations, as demonstrated by the use of a legally defined depreciation methods and the use of regular rates under the CIT. Empirical research has shown that a significant number of small businesses, 92% (total negative answers), haveno temporary differences. They do not want the difference between the accounting and tax basis for tax calculation, which gives them an easier way of calculating tax liability, which consequently leads to the manipulation with the financial statements and tax base. This findings show that small companies are not using accounting standards for recognition of accounting categories. All these findings confirm that the small businesses in small measures manipulate with income tax base. Looking at the results of the research it can be concluded that accounting standards do not have huge impact on financial statements of small businesses in Croatia but Corporate Income Tax Law has great influence on financial

statements and recognition of revenues and expenses in small companies. As a consequence, the financial statements are not showing fair and objective value of assets, liabilities, revenues and expenses. The positive financial effects of delayed taxes are realized but not recognized in the balance sheet of small companies. The main hypothesis that *small companies in Croatia manipulate with accounting categories for payment of Corporate Income Tax* is partially confirmed.

## REFERENCES

Accounting Act, Official Gazette 109/07, 54/13.

Aisbitt, S. (2002): **Tax and accounting rules: some recent developments**, European Business Review, Vol. 14, No. 2.

Cinotti, M. (2012): **Kako platiti manje poreza u 2012?**, Revizija/Savjetovanje/Računovodstvo, dostupno na <http://www.profitiraj.hr/novosti/kako-platiti-manje-poreza-u-2012-godini/>(accessed 20 August 2015)

Čevizović, I. (2007): **Coorelation between Corporate Income Tax return and financial statements in Croatian companies**, Master Thesis defended at Faculty of Economics and Bussines, University of Zagreb.

Dražić Lutilsky, I. (2005): **Harmonization of Croatian accounting and tax regulations with EU countries**, Master Thesis defended at Faculty of Economics and Bussines, University of Zagreb.

Gajić, N., Dražić Lutilsky, I. (2012): **Porezne i računovodstvene prijevare kod poreza na dobit**, Računovodstvo i porezi, 9/2012.

Gielen, F.(2006): IFRS and Taxation, World Bank, presentation at REPARIS – World Bank Conference held in Vienna, 15<sup>th</sup> and 16<sup>th</sup> March, 2006.

Novosel - Belavić, R. (2012): **Influence of Corporate Income Tax Law on financial reporting of companies in Republic of Croatia**, Master Thesis defended at Faculty of Economics and Bussines, University of Zagreb.

Corporate Income Tax Law, Official Gazette 177/04, 90/05, 57/06, 146/08, 80/10, 22/12, 148/13, 143/14.

Spajić, F.(2006): **Correlation between annual accounts and profit tax reporting**, World Bank, presentation at REPARIS – World Bank Conference held in Vienna, 15<sup>th</sup> and 16<sup>th</sup> March, 2006.

Trbojević, P., (2015): **Računovodstveni tretman i manipulacije porezom na dobit kod društava s ograničenom odgovornošću**, Graduate Thesis defended at Faculty of Economics and Bussines, University of Zagreb.

**Lena Duspara, univ.spec.oec.**

Veleučilište u Slavonskom Brodu  
Dr. Mile Budaka 1, 35 000 Slavonski Brod, Hrvatska  
Telefon: 035-492-805, Fax: 035-492-804  
E-mail: lena.duspara@vusb.hr

**Sanja Knežević, mag.oec.**

Veleučilište u Slavonskom Brodu  
Dr. Mile Budaka 1, 35 000 Slavonski Brod, Hrvatska  
Telefon: 035-492-805, Fax: 035-492-804  
E-mail: sanja.knezevic@vusb.hr

**Dr.sc. Miroslav Duspara**

Strojarski fakultet u Slavonskom Brodu  
Trg Ivane Brlić Mažuranić 2, 35000 Slavonski Brod  
Telefon: 091-908-0002  
E-mail: miroslav.duspara@sfsb.hr

**STRUCTURE OF MANUFACTURING ENTERPRISES AND THEIR  
IMPACT ON ECONOMY IN BRODSKO POSAVSKA COUNTY**

**STRUKTURA PODUZEĆA PRERAĐIVAČKE INDUSTRIJE I NJEZIN  
UTJECAJ NA GOSPODARSTVO U BRODSKO POSAVSKOJ ŽUPANIJI**

***ABSTRACT***

*Croatian economy has been influenced very long period by the global economic crisis, caused by collapse of the market after 2008. Crisis in Republic of Croatia is the result of a local version of the crisis, because before global crisis Croatia had problems with high rate of unemployment and public debt. Because of all this, it is necessary to make an economic turnaround and create strategies that will change the present situation. However, it is impossible to talk about strategy, without analysis of competitive advantage. Strategy is set of activities that enterprise should implement in order to achieve its objectives. The goal of any enterprise is a success, and achieving of competitive advantage. It is necessary to create a meaningful strategy for enterprise, which should be aligned with corporate objectives. Often, enterprises create a strategy just because others have it, but in reality do not operate in accordance to strategy.*

*Croatia has 21 counties (20 counties and the city of Zagreb, which has the status of a county). Brodsko posavska county (BPC) is one of the least developed regions in the Republic of Croatia. It is characterized by: one of the highest rates of unemployment, low share of investment, a small number of successful enterprises, small share of GDP, etc. Historically, this county had highly developed industry: metal processing industry, agriculture and wood industry. However, these industries have been destroyed due to badly conducted privatization, which is not yet completed. At the national level, the manufacturing industry is one of most developed with production increment of 7-8%, as well as growth of exports.*

*The aim of this paper is to analyze the structure of enterprises in the manufacturing industry in the BPC, sector C according to NKD (NKD - National Classification of Activities). The aim is to analyze the enterprises according to each sub-sector, size of enterprise, number of employees,*

*business performance, in order to see the impact on the economy. The research is conducted by a survey based on the analysis of financial ratios of 20 enterprises in manufacturing industry in 2015 in the BPC.*

**Keywords:** *Industry, Strategy, Production, Economy, Indicators*

## SAŽETAK

*Gospodarstvo Republike Hrvatske je već godinama pod utjecajem globalne ekonomske krize, koja je izazvala slom tržišta nakon 2008. godine. No, ova kriza u Republici Hrvatskoj je rezultat lokalne inačice krize, jer i prije su u Republici Hrvatskoj postojale velika nezaposlenost i visok udio javnog duga. Upravo zbog toga, potrebno je napraviti gospodarski zaokret i kreirati strategije koje će promijeniti sadašnje stanje. No, nemoguće je govoriti o strategiji, bez analize konkurentske prednosti. Strategiju predstavlja niz aktivnosti koje poduzeće treba provesti, kako bi ostvarilo svoje ciljeve. Cilj svakog poduzeća je uspješno poslovanje, odnosno postizanje konkurentske prednosti. Potrebno je smisljeno oblikovati strategiju poduzeća, da bude usklađena sa ciljevima. Često poduzeća kreiraju poslovnu strategiju samo zato što je imaju i druga poduzeća, a u stvarnosti ne posluju u skladu sa postavljenom strategijom.*

*Hrvatska ima 21 županiju (20 županija i grad Zagreb koji ima status županije). Brodsko posavska županija (BPŽ) je jedna od najslabije razvijenih regija u Republici Hrvatskoj. Karakterizira je: jedna od najviših stopa nezaposlenosti, neznan udio investicija, mali broj uspješnih poduzeća, te jako mali udio u BDP-u i sl. Povijesno, ova županija je bila industrijski veoma razvijena. Imala je jaku metaloprerađivačku, prehrambenu i drvenu industriju. No, ove industrije su uništene zahvaljujući loše provedenoj privatizaciji, koja još nije u potpunosti gotova. Na nacionalnoj razini, prerađivačka industrija je jedna od rijetkih koja ima neprestan rast proizvodnje od oko 7-8 %, kao i stalan rast izvoza.*

*Cilj ovog rada je istražiti strukturu poduzeća u prerađivačkoj industriji u BPŽ, odnosno sektor C prema NKD (NKD - Nacionalna klasifikacija djelatnosti). Cilj je analizirati poduzeća prema sektorskoj podjeli, prema veličini, broju zaposlenika, uspješnosti poslovanja, kako bi se prikazao utjecaj na gospodarstvo. Istraživanje se provodi putem ankete na analizi financijskih pokazatelja 20 poduzeća iz prerađivačke industrije u 2015. godini u BPŽ.*

**Ključne riječi:** *Industrija, Strategija, Proizvodnja, Gospodarstvo, Indikatori*

## 1. Introduction

Power of the national economy is reflected in the strength of its industry. Countries with strong, developed and industrial production have good macroeconomic indicators and high standard of living. Today, the standard of living of industrialized countries is high, because, the average worker can produce much. This is the result of strategic decisions that are related to the investment in new technologies, and organizational skills and managing with the company. Company always strives to efficiently production or production at the lowest cost. Industrial production in the Republic of Croatia, as well as in Brodsko Posavska County (BPC), in the early 90s of the last century has been systematically destroyed by mismanagement and poor implementation of the privatization. Transition had significantly altered the structure of the company. Before, dominated were large enterprises that were carriers of economic activities, but today it is mainly a large number of small enterprises. BPC is one of the least developed regions in the Republic of Croatia, with the lowest income per capita, one of the lowest rates of investment, for at least a share of GDP and others. The aim of this paper is to present the strategic models and methods by which it can improve the current

state of manufacturing industry in Brodsko Posavska County, and show the basic indicators of the current situation

## **2. Strategic implications for the economy**

Term strategy entered in the business dictionary at the end of the second half of the 20th century. The strategy means finding solutions: how to adapt to changing conditions, how to allocate resources, how to position the company and the product in relation to its competitors and at the same time meet the needs of the customer, same as approaches that apply and what actions to take to strengthen all functional and operational parts of the enterprise.

“The company's strategy can be defined as a series of competitive moves and business approaches that a company uses to increased levels of business, ensure the desired market position, attract customers, compete successfully, and accomplished the desired objectives” (Thompson, A.A. & Strickland, S.J., 2006., p.3). Before company chooses its strategy, first must take a good to look at other potential strategies. “The choice of strategy should be connected with the level of risk, because the company does not need to indulge in some projects due to the high risk can cause bankruptcy. Another element which is important when choosing a strategy is the time matched since even a very good product can fail in the market if it is introduced at inappropriate times” (Weihrich, H. & Koontz, H., 1998., p. 174).

Defining a successful strategy should answer three key questions: where the company now is, where it wants to go and how to get to the desired goal. In order to know where the company should go and where it is necessary to know what the purpose of the company and what is its geographical orientation, which can be local, regional or global. Management is important for the formulation of strategies, because that manager determine the direction of the company. It is necessary to know the value of leading people, their preferences and their attitude to risk, because all of these factors affect the development of the strategy.

## **3. Main characteristic of economy in Brodsko Posavska county**

“According to data published in 1992 in the area of Slavonski Brod lived 113,550 inhabitants, of which 32,200 were employed. The manufacture was even 28,100 workers. Twenty years later, in the whole of Brodsko Posavska County in legal entities worked 24,848 employees. In 1209 enterprises in sector of the manufacturing are 13 771 employees, but the population is one-third higher because it includes the entire county” (www.sbplus.hr).

BPC economy is not developed, there is small number of employed and educational structure is poor. Because of badly managed privatization large number of enterprises was destroyed or operates very bad. The goal of the development of the whole BPC, not just of manufacturing industry, should be based on strategies shift or redirection of existing operations in order to realize positive financial results. One of the key indicators of the industry level are exports and imports.

Table 1 in text below presents amount of total exports and total imports in Brodsko Posavska County in period form 2000. to 2012. According to table 1 it is clear that the economy of BPC is very poor, considering that the level of imports during observed period of 12 years is continuously lower than exports. Production in BPC, according to this indicator shows fails in production of goods and services that could be sold on foreign markets.

**Table 1** Amount of exports and imports in BPC in period form 2000.-2012.

	TOTAL EXPORT BPC	TOTAL IMPORT BPC
2000.	48.533.908	64.655.649
2001.	58.215.825	67.569.697
2002.	56.757.492	82.925.273
2003.	63.087.134	104.174.102
2004.	84.484.254	116.283.371
2005.	102.598.999	107.165.111
2006.	108.704.266	142.555.713
2007.	173.857.204	191.747.451
2008.	251.629.707	223.658.058
2009.	190.367.167	161.594.776
2010.	169.797.820	143.248.387
2011.	171.289.402	248.647.312
2012.	231.598.224	260.008.766

Source: made by author according data form HGK

According to Table 1, the total level of imports and exports, Table 2 below shows the share of exports and imports of certain industries in Brodsko Posavska County. It presents export and import for agriculture and food industry, wood processing and furniture industry and metal processing industry in period form 2000. to 2012.

**Table 2** Share of exports and imports of certain industries in Brodsko Posavska County in period from 2000 to 2012

	EXPORT			IMPORT		
	Agriculture and food industry	Wood processing and furniture industry	Metal processing industry	Agriculture and food industry	Wood processing and furniture industry	Metal processing industry
2000.	1,31%	46,7%	34,4%	20,33%	27,2%	20,1%
2001.	1,90%	36,8%	46,3%	13,31%	23,8%	28,6%
2002.	2,55%	36,9%	41,3%	10,11%	16,5%	25,0%
2003.	6,99%	43,6%	28,4%	13,48%	17,1%	19,4%
2004.	5,31%	39,3%	35,5%	10,29%	15,9%	23,6%
2005.	5,08%	31,1%	52,5%	9,99%	16,9%	28,4%
2006.	9,60%	23,2%	56,3%	6,40%	14,5%	35,3%
2007.	6,47%	23,6%	61,8%	6,87%	10,2%	47,3%
2008.	7,11%	12,9%	71,5%	11,26%	7,0%	45,6%
2009.	6,54%	13,8%	71,0%	6,41%	4,7%	51,8%
2010.	8,15%	15,5%	70,6%	12,79%	5,2%	48,5%
2011.	11,12%	17,9%	80,6%	17,26%	3,3%	66,5%
2012.	11,40%	12,0%	69,5%	11,79%	3,0%	70,3%

Source: made by author according data form HGK

According to table 2 agriculture and food industry have positive trend of increasing share of export and decreasing of import. In 2000 rate of import was significantly higher than export; nowadays that rate is actually similar. Wood industry was very developed, but because of competence and foreign shopping centers that sells furniture, domestic production is sustainably destroyed. In 2000 export of Wood processing industry was very high and larger form rate of import. Nowadays, share of wood industry is only 12%. Metal processing industry is third most important branch of industry, and most important for economy of BPC. Through certain period of time it constantly increases share of export, and also share of import. The reason is because for metal processing production there are no raw materials of domestic market. Metal processing industry historically has main industrial role for this area (since 1921.), most of people were employed in that industry, and most of enterprises did it. Also, strategy industrial strategy of BPC is focused on permanent development of metal processing industry. Main characteristic of that industry is that is technologically outdated. It is important to invest in new



technologies and knowledge in order to convert it in competitive, productive and successful on market of European Union. Generally, industrial production in Republic of Croatia is systematically neglected for years, but today its importance and significance is important for national economy.

Importance of industry is infallible for achieving of competitive advantage. Croatia is not industrially competitive on foreign market, but within national market some regions are more competitive than others. Table 3 in text below present changes in the competitiveness ranking of counties in the Republic of Croatia in period 2007, 2010 and 2013.

**Table 3** Changes in the competitiveness ranking of counties in the Republic of Croatia in the period 2007, 2010 and 2013

County	2013.	2010.	2007.
Grad Zagreb	1	2	1
Varaždinska	2	1	4
Istarska	3	3	3
Međimurska	4	4	2
Primorsko-goranska	5	7	6
Zadarska	6	6	9
Zagrebačka	7	5	5
Koprivničko-križevačka	8	12	7
Splitsko-dalmatinska	9	8	8
Dubrovačko-neretvanska	10	9	10
Osječko-baranjska	11	13	14
Krapinsko-zagorska	12	11	15
Karlovačka	13	14	12
Šibensko-kninska	14	10	13
Bjelovarsko-bilogorska	15	15	11
Brodsko-posavska	16	16	18
Ličko-senjska	17	18	19
Virovitičko-podravska	18	17	17
Sisačko-moslavačka	19	19	16
Vukovarsko-srijemska	20	20	21
Požeško-slavonska	21	21	20

Source: [www.konkurentnost.hr](http://www.konkurentnost.hr), p.21

According Table 3, Brodsko Posavska County is one of least developed and competitive counties in Croatia. Croatia has 21 counties, and BPC is ranked on 16<sup>th</sup> place. Because of very bad position, it is important to invest in new technologies in order to develop manufacturing industry. BPC is not competitive; it has below-average salaries, small proportion of investments, low rate of GDP and so on.

#### 4. Research

Research is conducted on 20 enterprises in manufacturing industry in Brodsko Posavska County in 2015 through survey. In this paper are researcher indicators such as: location of enterprise, credit rating, sector according NKD, year of establishment, number of employees, average net salaries, earning before tax (EBT), net profit, export, import, current ratio and Altman Z'score.

The credit rating of the undertaking represents a future assessment of the probability of insolvency of the company. Solvency companies are graded A, B, C, D, and E. "The credit rating A - excellent creditworthiness and low credit risk. It should continue the business relationship with the subject. The credit rating B - good solvency, or low credit risk - continues the business relationship with the subject. The credit rating C - borderline credit worthiness, and the average credit risk. Continue working relationship with entities with active monitor developments. The credit ratings D - bad

credit worthiness, or significant credit risk, continue the business relationship with major precautions. The credit rating E presents critical solvency and high credit risk. To continue the business relationship only with full insurance claims“([www.fininfo.hr](http://www.fininfo.hr)).

According to NKD 2007 (National Classification of Activities) manufacturing industry is conducted of C10- Manufacture of food products, C11- Manufacture of beverages, C12- Manufacture of tobacco products, C13- Manufacture of textiles, C14- Manufacture of wearing apparel, C15- Manufacture of leather and related products, C16- Manufacture of wood and products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials, C17- Manufacture of paper and paper products, C18- Printing and reproduction of recorded media ,C19- Manufacture of coke and refined petroleum products, C20- Manufacture of chemicals and chemical products, C21- Manufacture of basic pharmaceutical products and pharmaceutical preparations, C22- Manufacture of rubber and plastic, C23- Manufacture of other non-metallic mineral products ;C24- Manufacture of basic metals, C25- Manufacture of fabricated metal products, except machinery and equipment, C26- Manufacture of computer, electronic and optical products ,C27- Manufacture of electrical equipment , C28- Production of machinery and equipment, C29- Production of motor vehicles, trailers and semi-trailers, C30- Manufacture of other transport, C31- Manufacture of furniture, C32- Other manufacturing, C33- Repair and installation of machinery and equipment

The largest number of companies was founded in early 90s of the last century, 14 of them. This is a time of economic and social change, and the start of the transition. Other companies were established in the period after 2000. 90s are called years of entrepreneurship, because in the world was established most companies. During this period, the economy was in an upswing and pursued the highest profits. Croatia is because of civil war and the entry into the transition fairly missed economic and technological benefit. According to research, the number of employees and their salaries are determined by the following data displayed in table 4.

**Table 4** Number of employees and average net salaries for researched enterprises in manufacturing industry in BPC

Number of employees	Number of enterprises	Average net salary	Number of enterprises
0-9	10	0-3.000 HRK	6
10-20	4	3.000-4.000 HRK	10
21-50	6	4.000-5.000 HRK	4

*Source: made by author*

According to the data the highest number of companies can be classified as micro-enterprises that have 0-9 employees. A significant number of nine has more than 20 employees. These are usually companies that are already established in the market, and which are established in the early 90's. Average salaries in Brodsko Posavska county “are 20% lower than the national average” ([www.ebrod.net](http://www.ebrod.net)). The average salary in January 2016 in the Republic of Croatia was 5646 HRK ([www.dzs.hr](http://www.dzs.hr)). According to the data from the table 4, wages in the manufacturing industry in selected enterprises are significantly lower than the average wage. One reason is because the manufacturing industry structure of employees with low levels of education. The share of higher education is very low, which affects competitiveness.

In order to best explain the level of business it is important to show a profit by the company with its employees managed to achieve. In the text below, table 5 shows the EBT and net profit in the observed companies.

**Table 5 Earning before tax (EBT) and net profits for researched enterprises in manufacturing industry in BPC (HRK)**

EBT	Number of enterprises	Net profit	Number of enterprises
negative	1	negative	1
0-99.999 HRK	9	0-99.999 HRK	10
100.000-1 mil HRK	4	100.000-1 mil HRK	3
1 mil. and more HRK	6	1 mil. And more HRK	6

*Source: made by author*

According to table 5 earnings before tax (EBT) were negative in one enterprise, in 9 enterprises it was from 0 to 99.999 HRK, 4 enterprises had EBT in sale from 100.000 to 1 million HRK, and 6 of them more than one million. Very similar to EBT, net profit 10 enterprises have profit in scale to 99.999 HRK. Their business activity is based on trade- export and import. Rate of export is one of indicators of competitiveness. Table 6 presents rate of exports and imports for researched enterprises in manufacturing industry in BPC.

**Table 6 Rate of exports and imports for researched enterprises in manufacturing industry in Brodsko Posavska County**

Exports	Number of enterprises	Imports	Number of enterprises
0	10	0	5
0-1mil.	4	0-1mil.	5
1 mil and more	6	1 mil and more	10

*Source: made by author*

According to table 6, half of enterprises don't export their products. Reasons are that some products are not competitive on foreign market and enterprises are afraid of new markets. Often, there is the language barrier, because most of people in manufacturing industry is low educated. Many of them import products, only 5 don't have import activity. Enterprises should use both, import and export in order to develop their business and competitive advantage.

Altman Z is one of the models of risk assessment. "This indicator represents the weighted number of individual financial ratios and on the basis of the number of estimated financial condition of the company. It is estimated that the company, which also obtained the result of more than 3, financially stable and that there is no real danger of bankruptcy, the company which resulted in a range of 1 to 3 are in the "gray zone" which means they have a financial limit stability and businesses with a score below 1 are significant financial difficulties and threatens to bankrupt them" ([www.poslovnih.hr/](http://www.poslovnih.hr/)).

Current ratio shows the ratio of current assets and current liabilities, and should be "2 or more, and that means that the company has twice as much cash, receivables and inventories than short-term liabilities that are due. According to a rough estimate is considered to be the ratio of current assets and current liabilities of 2: 1 is optimal for most businesses, it provides sufficient protection to cover short-term liabilities. So if the value of current assets exceeds the value of current liabilities, it is very likely that the arrears will be paid" ([www.profitiraj.hr/](http://www.profitiraj.hr/)).

Table 7, in text below presents Current ration and Altman Z' Score for researched enterprises in manufacturing industry in Brodsko Posavska County. There are two parameters for current ratio, and three parameters for Altman Z'score.

**Table 7** Current ration and Altman Z' Score for researched enterprises in manufacturing industry in Brodsko Posavska County

Current ratio	Number of enterprises	Altman Z score	Number of enterprises
Less than 2	9	Less than 1	0
2 and more	12	1-3	7
		3 and more	13

Source: made by author

According to table 7, significant number of enterprises, even nine of them are not liquid, and 7 are in the gray zone of survival in the market, and it is uncertain in which direction will go their development. Generally current ration in Croatia is not well, and large number of small, especially micro enterprises is at a disadvantage with regard to Altman Z' score.

## 5. Conclusion

By study of certain indicators it can be concluded that Brodsko Posavska County has potential for development, but it is necessary to implement many changes. Historically, the economy BPC is based on the metal processing industry and agricultural production. Although, macroeconomic indicators are not well, same as the level of investment that has a share of less than 1% compared to the national level of investment. This region should be strengthened, in order to be more competitive. Based on the research, companies are generally in poor financial situation. It is necessary to increase the level of investment, increase the level of imports, and improve the education structure and so on.

It is important to implement strategies that lead to sustainable competitive advantage and sustainable development. This is possible with new technologies, knowledge and investments in manufacturing. Also, it is important legally and administratively support small entrepreneurs in developing of their ideas.

## REFERENCES

- Thompson, A.A., Strickland, S.J. (2006) *Strateški menadžment*, Mate, 4th ed, Zagreb
- Wehrich, H. & Koontz, H. (1998) *Menadžment*, Mate, 10 izdanje, 8 Zagreb
- Regionalni indeks konkurentnosti Hrvatske, Nacionalno vijeće za konkurentnost [www.konkurentnost.hr](http://www.konkurentnost.hr), (accessed 20 March 2010)
- Fininfo, Opis boniteta [http://www.fininfo.hr/Content/documents/Fininfo\\_opis\\_bonitetnog\\_modela.pdf](http://www.fininfo.hr/Content/documents/Fininfo_opis_bonitetnog_modela.pdf) (accessed 22 March 2010)
- e Brod, <http://www.ebrod.net/slavonski-brod/clanak/nismo-se-pomakli-s-mjesta-place-u-brodsko-posavskoj-zupanije-i-dalje-20-manje-od-hrvatskog-prosjeka-13978.html> (accessed 02 March 2010)
- Državni zavod za statistiku [http://www.dzs.hr/Hrv/system/first\\_results.htm](http://www.dzs.hr/Hrv/system/first_results.htm) (accessed 20 March 2010)
- Poslovna Hrvatska, Sintetski pokazatelji, [www.poslovni.hr/](http://www.poslovni.hr/) (accessed 20 March 2010)
- Profitiraj.hr <http://profitiraj.hr/financijski-pokazatelji-pokazatelji-likvidnosti/> (accessed 16 March 2010)

**Suzana Đorđević, mag.oec, teaching assistant**  
The University of Applied Sciences Baltazar Zaprrešić  
Vladimira Novaka 23, 10290 Zaprrešić  
Telephone: 00385 99 3040 830  
E-mail: suzana.djordjevic@bak.hr

**Maja Buljat, mag.oec, teaching assistant**  
The University of Applied Sciences Baltazar Zaprrešić  
Vladimira Novaka 23, 10290 Zaprrešić  
Telephone: 00385 98 9423 672  
E-mail:maja.buljat@bak.hr

## **THE IMPACT OF FDI IN INFORMATION COMMUNICATION TECHNOLOGIES ON ECONOMIC PERFORMANCES IN CROATIA**

### **UTJECAJ IZRAVNIH STRANIH ULAGANJA (FDI) U INFORMACIJSKU KOMUNIKACIJSKU TEHNOLOGIJU NA EKONOMSKE PERFORMANSE U HRVATSKOJ**

#### **ABSTRACT**

*Information communication technology and its application is becoming an increasingly important element in achieving competitiveness and efficiency of economic growth. Considering that the current economic growth of Croatia was based on traditional, old economy, indicating that the application of information communication technology is falling behind developed countries, Foreign direct investments, in generally, increased dramatically in the last few years, but the investments are not distributed equally and developing countries, such as Croatia, face difficulties in attracting foreign investors. A research is conducted on the cause link between the foreign investments in information technology sector and two variables - GDP growth and export. By conducting scientifically-based analysis this paper proves that investments in the information communication technology sector contribute positively to the growth of GDP and export. The hypotheses that are confirmed are also compared to scientific research of previous authors for different European Union countries. Except for unquestionable positive effects, the paper summarizes possible negative effects of foreign direct investments in information technology sector presenting results of mostly foreign researches. In conclusion the paper suggests that the foreign investments are the main key for development of information communication technology sector making it important precondition for achieving better competitiveness. Methods used in this paper are methods of compilation, statistical methods, descriptive method of analysis and methods of time series.*

*The aim of this paper is to examine, analyze and define to which extent foreign direct investments (FDI) in information communication technology (ICT), affect economic growth of Croatia.*

**Keywords:** *Information Communication Technology ( ICT ), foreign direct investment ( FDI ), economic development, GDP growth, export*

## SAŽETAK

*Informacijsko komunikacijska tehnologija i njezina primjena postaje sve značajniji element u postizanju konkurentnosti i efikasnosti gospodarskog rasta države. Dosadašnji rast gospodarstva Hrvatske zasnivao se na tradicionalnoj, staroj ekonomiji, što ukazuje da nažalost primjena informacijske komunikacijske tehnologije u Hrvatskoj zaostaje za razvijenijim zemljama. U posljednjih nekoliko godina izravne strane investicije (FDI) gledajući u globalu se dramatično povećavaju, no problem nastaje kod raspodjele ulaganja koja su vrlo nejednako raspodijeljene te se zemlje u razvoju kao što je Hrvatska suočavaju s poteškoćama u privlačenju izravnih stranih investitora. Rad istražuje uzročnu vezu između izravnih stranih ulaganja u informacijsku tehnologiju kroz dvije varijable- BDP rast i izvoz. Koristeći znanstveno utemeljene analize rad dokazuje da investicije u ICT sektor pozitivno doprinose rastu BDP-a i izvozu. Potvrđene hipoteze također su uspoređene s dosadašnjim znanstvenim istraživanjima drugih autora na primjerima različitih zemalja Europske unije. Kada je u pitanju ulaganje u ICT sektor uz pozitivne efekte koje oni donose navode se i negativni efekti dosadašnjih istraživanja stranih autora. Zaključni dio rada prikazuje kako su strane investicije temeljni ključ za razvoj ICT sektora čijim bi se razvitkom daleko povećala konkurentnost države. Metode korištene u radu su metoda kompilacije, statistička metoda, deskriptivna metoda analize te metoda vremenskih nizova.*

*Cilj rada istražiti, analizirati i definirati u kojoj mjeri izravne strane investicije u informacijskoj tehnologiji (ICT) utječu na ekonomski rast Republike Hrvatske.*

**Ključne riječi:** *Informacijska tehnologija (ICT), Izravna strana ulaganja (FDI), gospodarski rast, BDP rast, izvoz,*

### 1. Introduction

Investment in ICT sector and its positive effect on the economy is intense subject of discussion in the past twenty years. The process of economic integration stimulated with information and communication technology based on adoption of technology that comes from foreign countries is of major importance for economic growth and improving productivity. This conclusion is of major importance for all countries, especially those that are lagging behind most of the developed countries such as Croatia. Most of the empirical literature is dealing with the issue of how foreign direct investment in information and communication technology affect productivity and economic growth in the domestic economy, but studies are mainly conducted on micro levels of various companies. Considerably less research is conducted on macro or international level.

(Panian, 2002) in his work states that the acquisition of Internet technologies and business models based on them and the effectiveness of using the growth potential that they offer are becoming one of the most important strategic issues, as on microeconomic level and at the level of the national economy.

Previous studies were linking contributions of the growth of IT functions and communication technology and capital invested in that sector with the so-called paradox of productivity. The paradox is defined as the range between the measure of investment in information and communication technology and export measure at the national level. One of possible explanation for the paradox is that the data and analytical problems are hidden in the incomes of productivity because sometimes is difficult to measure it, particularly in the service sector, (Kandžija, Lovrić, and Marijan, 2009).

When it comes to modern network economy then the company tries to improve the activities of the features and services that are important for improving productivity and quality of services in the global economy. It is contributing to the wider community in which it operates. Monitoring of modern trends in the field of organization productivity, service delivery and application of

information technology in the work of all economic entities significantly improves activity of the entire economy, increasing the satisfaction of its users and allows greater integration into the global economy (Amor, 2000).

(Alvarez and Brney, 2005) claim that the initiators of the economic trends in society are considered businessmen who are also inclined to new communication and information technologies and the Internet allows them to use and directly improve their business in respect of Croatia and the world.

(Dryden, 2003) and (Van Ark and Inklaar 2005) suggest three ways in which information and communication technology affects the economic growth and the company's business: investments in ICT, the existence of sectors producing ICT goods and services and the use of ICT.

## 2. Influence of ICT industry on economic growth

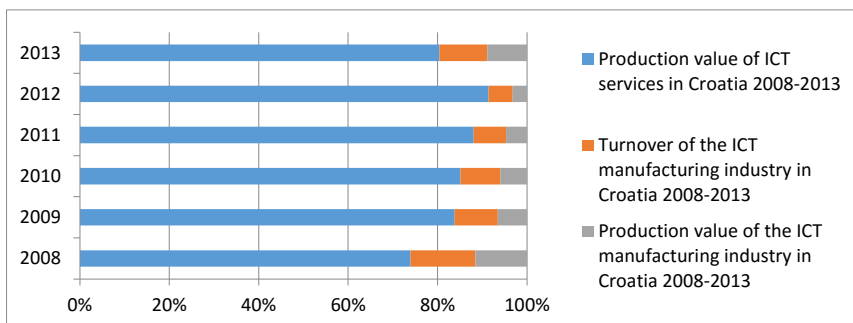
(Khuong Vu, 2004) in his paper examines the contribution of ICT and its impact on global economic growth. His paper finds that ICT contribution to economic growth is a global phenomenon, which is evident not only in developing ones. The paper confirms that ICT has a significant impact on economic growth. The accumulation in ICT capital stock is a significant determinant of the variation in output growth across economies. Also ICT is superior to Non ICT in enhancing the efficiency of output growth in labour and capital inputs, a higher level of ICT capital stock per capita allows a typical economy to achieve a higher output growth rate.

According to Oxford Economics government policy directly influences the effectiveness of ICT investment and its productivity benefits, pointing to the need for harmonising data protection laws EU-wide, reviewing regulations about data sharing and keeping policy up to date with technological developments.

According to (OECD 2004, 2008) the positive macro-economic impacts of ICT in terms of increases in productivity and growth can arise next to increase in the size and productivity of the ICT sector, and associated effects such as growth in industries that provide inputs to ICT production. ICT investment across the economy contributes to capital deepening and leads to an increase in labour productivity. A growing ICT sector can contribute to aggregate increases in productivity, GDP and trade.

A review of research on macroeconomic impacts of ICT found that productivity gains in developing countries were mainly generated by the ICT sector, rather than through ICT use (UNCTAD, 2007)

**Chart 1** Production and Turnover of ICT industry in Croatia (in million euros)



Source: Processed by authors according to data obtained from the (EUROSTAT, 2008-2013.)

Chart 1 shows the annual production value of the ICT sector in Croatia, turnover ICT of the total processing industry and the production value of the ICT industry of the total manufacturing industry in Croatia. From the graph it is evident that the highest value of production of the ICT sector in

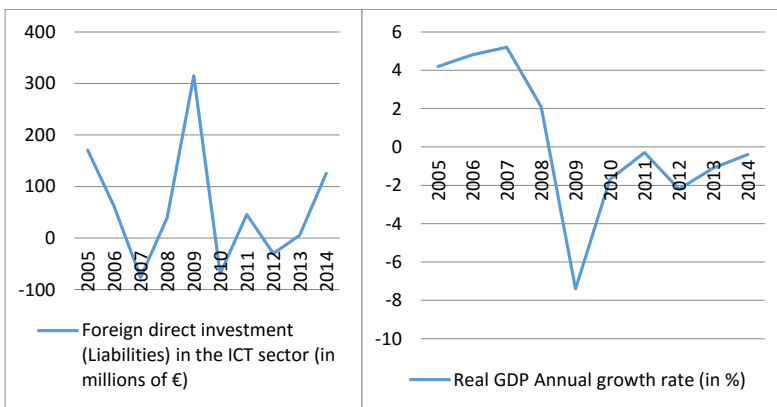
2012 reaches the amount of 2,682.70 billion euro. Analyzing the specified variable notes the constant growth with a slight decline in 2013 in which the value of production of the ICT sector reaches 2.621,7 billion euro. The next screen in chart is annual turnover of the ICT industry, which in 2012 reaches the lowest level of realized 158.1 billion euro, after the fall recorded in 2013 following an increase in turnover to 349.4 billion euro's. The last display shows the annual value of ICT in manufacturing industry also in 2012 achieved a significant decrease compared to the previous year with the realized value of the 94.6 billion euro's, but in 2013 achieved significant growth where value increases on 288,7 billion euro.

### 2.1. GDP and foreign direct investments in ICT industry in Croatia

(Djordjević, Ivanovic, Bogdan, 2015) in their paper examine negative influence of foreign direct investments. The paper was to prove that alongside some positive impacts of foreign direct investments, there are also the negative ones, which was proved by various authors also. By means of structural analysis of foreign direct investments in Croatia in the period from 1993 until the third quarter of 2014 it was determined that Croatia has received a little more than 19 billion euro's of foreign direct investments. Despite of this fact, there were very few positive effects of foreign investments in Croatia, and therefore economic performance did not change nor did it get better. The revenues from direct foreign investments have mostly been used to settle financial debts. The conclusions of the paper does not mean that Croatia needs to stop encouraging the inflow of foreign direct investments, but they suggest that changes of the strategy of attracting direct foreign investments are required.

Chart 2 shows the annual movement of foreign direct investment focused on the ICT sector. The highest growth of 314.83 million euro's was achieved in 2009, after that was a drastic fall in foreign investment in the ICT sector. The recovery of investments of foreign investors in the ICT sector was in 2014 when the total foreign investment in the ICT sector generated 125.38 million euro's. Simultaneously analyzing the real rate of annual GDP growth it can be concluded that during the period when is recorded the lowest rate of GDP, FDI was reaching his climax. Or it can be concluded that the recession and the shocks of the crisis did not affect the foreign direct investment directed to the ICT sector in Croatia.

**Chart 2** Foreign direct investment (Liabilities) in the ICT sector 2005-2014 (in millions of €) and Real GDP (Annual) growth rate (in %)



Source: Processed by the authors according to the data obtained from (HNB, 2005-2014)



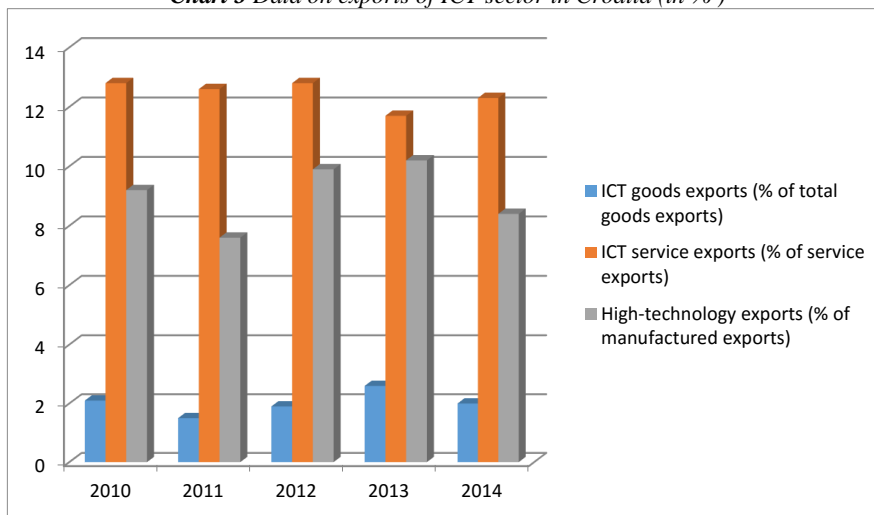
## 2.2. Information communication industry and export

Export of information and communication sector is continually growing. According to data published on the agency's website (IDC Adriatics, 2014) it is expecting that in the next four years Croatian IT services market will grow to almost 100 million euro, it is clear that Croatia software industry in 2014 reached the fifth fastest growing domestic export services. In 2014, software sales abroad achieved 1.55 billion kn, which increased by 27 percent compared to the previous year.

In 2015 Croatian Employers Association in collaboration with the company Bisnode refers to the impact of the ICT sector on the economy. One of the indicators is exporting only IT industries which according to the 2013 achieve 1.5 billion kn, but in 2014 there was an increase to 1.87 billion. Furthermore, exports of IT services and software in just the last two years increased by 45%, and reached 1.5 billion while the total export of the whole ICT sector in 2014 amounted to almost 5 billion.

Chart 3 shows the percentage of participating ICT exports of goods in total exports of goods, then the percentage of participating ICT service exports of total exports of services and the percentage of exports of technology sated with an excess over the total exports of the manufacturing industry. These data are very important and positive for the ICT sector. Apart from short-term fluctuations it is seen an increase in exports of ICT goods and services and high technology. The highest share recorded exports of ICT services which according to data for the year 2014 amount to 12.3% of total exports of services in Croatia as compared to 2013 increased by 0.6 %. Furthermore, exports of ICT goods in 2014 makes 2 % of total exports of goods in Croatia, comparing to the previous year 2013, it decreased for -0,6%.

*Chart 3 Data on exports of ICT sector in Croatia (in % )*



*Source: Processed by authors according to data obtained from the (World Data Bank, 2010-2014)*

## 3. Conclusion

Rapid technological progress in the production of ICT goods and services, and faster growth and development of the ICT productive sector, has a significant impact on the productivity and

efficiency of all the other sectors of national economies, as well as on the growth and overall development of economic systems. This research analyses the influence of FDI in information technologies on economic performances in Croatia. Hypothesis of the paper was to prove its positive effect of foreign direct investment in the ICT sector on economic performance of Croatia. The evidence of that hypothesis is scientific research and methods used in the paper, which confirms the above hypothesis. The hypotheses that are confirmed are also compared to scientific research of previous authors from different European Union countries. In purpose of the research it was examined the export of ICT sector in the last two years which has recorded a significant growth especially IT sector and software which export grow by 45 % respectively 1,87 billion kn. By analyzing the movement of the annual real growth rate of GDP and the investment proved how shocks and crises recession did not significantly affect the development of the ICT. A significant impact of the ICT sector is realized with the total GDP achieved in 2014, 3.2% of the total share of GDP. Investments in ICT technologies must be increased in the future so that Croatian economy could achieve sufficient growth and a more competitive position in the market.

The low level of penetration of new technologies as one of the most important generators of economic growth is a result of political and economic barriers and dualisms prevailing Croatian society and the economy.

The development of the ICT sector has a positive effect on economic performance of Croatia, and with larger investment in the ICT sector Croatia would achieved significant market competitiveness and more significant economic growth of the country.

## REFERENCES

Alvarez, S.,A., Brney, J., B., (2005): *How Do Entrepreneurs Organize Firms Under Conditions of Uncertainty?*, Journal of Management, 31(5), str. 776-793

Amor,D. (2000): *Die E- Business (R)evolution*, Bonn: Galileo Press GmbH

Dryden, J. (2003), *ICT, the economy and society – challenges of measurement and analysis*, OECD.; <http://unece.org/stats/documents/ces/sem.52/12.e.pdf>, (last accessed on January 15 2016.).

Djordjevc, Ivanovic, Bogdan (2015), *Direct foreign investmentsand the lack of positive effectson theeconomy*, UTMS, Journal of Economy,Vol. 6 No. 2, 197-208, <http://utmsjoe.mk/files/Vol.%206%20No.%202/UTMSJOE-2015-0602-002-Djordjevic-Ivanovic-Bogdan.pdf> , (last accessed on January 29, 2016).

Hrvatska udruga poslodavaca: *Položaj strateških industrija u Hrvatskoj*, četvrti okrugli stol „HUP-ovih 16“

[http://www.hup.hr/EasyEdit/UserFiles/LEA%20MARCIJU%C5%A0%20OKRUGLI%20STOLOVI%202015/05.11.%20Strate%C5%A1ke%20industrije%20okrugli%20stol%20prezentacija\\_finalno\\_zadnje.pdf](http://www.hup.hr/EasyEdit/UserFiles/LEA%20MARCIJU%C5%A0%20OKRUGLI%20STOLOVI%202015/05.11.%20Strate%C5%A1ke%20industrije%20okrugli%20stol%20prezentacija_finalno_zadnje.pdf)(last accessed on February 27 2016.)

IDC Adriatics: *Croatia IT Services Market 2015–2019 Forecast and 2014 Vendor Shares*<http://idc-adriatics.com/eng/research/overview>(last accessed on February 27 2016.).

Kandžija Vinko, Lovrić Ljiljana, Marijan Matko (2009) *FDI attractiveness positioning and ICT impact on productivity growth in European transitional countries*,

[http://hrcaak.srce.hr/index.php?show=clanak&id\\_clanak\\_jezik=64348&lang=hr](http://hrcaak.srce.hr/index.php?show=clanak&id_clanak_jezik=64348&lang=hr)(last accessed on March 20 2016.).

Khuong Vu, „*Measuring the Impact of ICT Investments on Economic Growth*“ (Program on Technology and Economic Policy, Harvard Kennedy School of Government), 27, <https://www.hks.harvard.edu/m-rcbg/ptep/khuongvu/Key%20paper.pdf>(last accessed on March 20 2016.).

OECD (2004), *The Economic Impact of ICT, Measurement, Evidence and Implications*, <http://www.oecd.org/bookshop?pub=922004051P1>, (last accessed on April 13 2016.)

OECD (2008a), *The Contribution of the ICT Sectors to Economic Growth in OECD Countries: Backward and Forward Linkages*“, DSTI/ICCP/IIS(2008)2

Oxford Economics: *Technology, media, communications, and entertainment*, <http://www.oef.com/economic-impact/archive/by-industry> (last accessed on March 3 2016.).

Panian, Ž., (2002): *Izazovi elektroničkog poslovanja*, Narodne Novine, Zagreb

UNCTAD (2007), *Information Economy Report 2007-2008: Science and Technology for Development, the New Paradigm of ICT*. United Nations. New York and Geneva. <http://www.unctad.org/Templates/Webflyer.asp?intItemID=1397&docID=9479>(last accessed on April 10 2016.)

UNCTAD (United Nations Conference on Trade and Development) (2011), *Measuring the Impacts of Information and Communication Technology for Development*, Current Studies on Science, Technology and Innovation N °3, New York and Geneva, 2011., [http://unctad.org/en/Docs/dtlstict2011d1\\_en.pdf](http://unctad.org/en/Docs/dtlstict2011d1_en.pdf)(last accessed on April 15 2016.)

Van Ark, B., Inklaar, R. (2005), *Catching Up or Getting Stuck? Europe's Troubles to Exploit ICT's Productivity Potential*, *Research Memorandum GD-79*, Groningen Growth Development Center, University of Groningen

## **COMPUTER CRIME AND GLOBALIZATION**

### **RAČUNALNI KRIMINALITET I GLOBALIZACIJA**

#### **ABSTRACT**

*The impact of information technology on the structure and functioning of national economies and the entire world economy is reflected in the macro scale in the creation, development, and tumultuous growing significance of new industries, which directs the economic activities of mankind. It can today be seen in the process of globalization. At the micro level leads to structural changes within the company that affect the activities of business functions or business processes as a fundamental determinant of business systems, not just those that are traditionally related to information flows. With it is developing the concept of decentralization of business decisions with an even share of the information and communication of all employees.*

*Classical economic thought emphasizes that the wealth of a nation depends on the method by which directs its resources, above all the material, the processes of production and trade. Better allocation of these resources brings a higher level of productivity and result in a higher standard of living of individuals and society as a whole.*

*People have become aware of the fact that information is a prerequisite for the dissemination of knowledge, and that knowledge is the main prerequisite for any further development and prosperity of any developed society, or country. Visible interest of all remotely developed countries (and those who want to become so) is to invest in the education of their IT staff. Computer networks have become the main transmitter of information and connecting people to the world. Implementing sophisticated techniques and knowledge as its prerequisite, are caused by the money and information as the main forms of economic and social abuse. Thus, experience shows, every technological advancement of society with the benefit of bringing a dark side. This dark side of a rule first used by criminals who use new technical and technological achievements in their work. Therefore, it was necessary to analyze the basic economic indicators of civilization's development and ways of their application in modern society, with special emphasis on crimes that can be committed by using information technology. The aim of this paper is precisely this: to point out the possible abuses which can be committed with the help of modern computer technology, and the resulting damage can cause huge problems in the functioning of not only national but also the economies around the world.*

**Keywords:** globalization, economics, computer science, computer crime

#### **SAŽETAK**

*Utjecaj informacijske tehnologije na strukturu i funkcioniranje nacionalnih gospodarstava i čitave svjetske ekonomije ogleda se na makroplanu u stvaranju, burnom razvoju i sve većem značenju novih privrednih grana, što usmjerava ekonomske aktivnosti čovječanstva. To se danas posebno očituje u procesu globalizacije. Na mikroplanu dolazi do strukturnih promjena u okviru poduzeća koje se odražavaju na aktivnosti poslovnih funkcija, odnosno poslovnih procesa kao temeljnih odrednica poslovnih sustava, i to ne samo onih koji su tradicionalno vezani za informacijske*

tijekove. Uz to se sve više razvija koncept decentralizacije poslovnog odlučivanja uz ravnomjerni udio u informiranju i komuniciranju svih zaposlenih.

Klasična ekonomska misao naglašava da bogatstvo jedne nacije ovisi o načinu kojim usmjerava svoje resurse, prije svega materijalne, u procese proizvodnje i trgovine. Bolja alokacija ovih resursa donosi viši stupanj produktivnosti i rezultirat će višim životnim standardom pojedinaca i društva u cjelini.

Ljudi su postali svjesni činjenice da su informacije preduvjet širenja znanja, a da je znanje glavni preduvjet svakog daljnjeg razvoja i prosperiteta svakog razvijenog društva, odnosno države. Vidljivi interes svih iole razvijenijih država (ali i onih koje žele takvima postati) jest ulaganje u obrazovanje svog informatičkog kadra. Računalne mreže postale su glavni prijenosnik informacija i povezivanja ljudi na cijelome svijetu. Implementacija sofisticirane tehnike i znanje kao njezin preduvjet, prouzročili su uz novac i informaciju kao glavne oblike ekonomske i društvene zloupotrebe. Dakle, iskustvo pokazuje, svaki tehnološki napredak društva uz dobrobit donosi i svoju mračnu stranu. Tu mračnu stranu u pravilu prvi koriste kriminalci koji se služe novim tehničkim i tehnološkim dostignućima u svom poslu. Zbog toga je valjalo analizirati temeljne ekonomske pokazatelje civilizacijskog razvitka i načine njihove primjene u modernom društvu uz poseban naglasak na kaznena djela koja se mogu počinuti uporabom informatičke tehnologije. Cilj ovog rada je upravo taj: ukazati na moguće zloporabe koje se mogu počinuti uz pomoć moderne računalne tehnologije, a tako nastale štete mogu prouzročiti goleme probleme u funkcioniranju ne samo nacionalnog nego i gospodarstava cijelog svijeta.

**Ključne riječi:** globalizacija, ekonomija, računalna znanost, računalni kriminalitet

## 1. Introduction

At the end of the 20th century it appears the idea that the wealth of nations depends primarily on how the company will make use of available information and knowledge. It is also a sign of the transition to the information age as opposed to industrial society. In the period of industrial society was a commitment to achieving the priority objective of capitalist society, and that is to produce as many goods that can be sold and therefore ensure a certain profit, without regard for the material limitations of the Earth as a planet. It was believed that nature has sufficient quantities of raw materials and energy for lasting development of industrial production, and to withstand all kinds of pollution, or rather about is not even considered.

In the sixties of the 20th century, group of eminent scientists and intellectuals reflecting on the future of mankind studied five important indicators of civilization's development, and that is:

- Population,
- Agricultural production,
- Industrial production,
- Consumption of non-renewable material and energy resources,
- Environmental contamination.

It was found that all these indicators have features of exponential growth and to show the same trends in the future. The sum of these indicators can be seen as a sub system of the Earth as a planet.

Changes in these indicators have historically been subject to the same laws, but only then, in the sixties of the 20th century, in long history of mankind has become perceived in this manner [1]. At the beginning of this chapter discusses the phenomenon of the doubling time in the case of information. A similar consideration also applies in this case. Relative changes assume a large absolute amounts that are easier to see, a short doubling time become comparable with the first human lifetime, and then with the duration of human activities. Another part of the problem in approaching the material limitations of the system in which we live. Planet Earth is a relatively closed system with very strong physical limitations, and its subsystems are subject to these restrictions.

With the development aspect population growth, agricultural and industrial production are welcome, while consumption of non-renewable resources and environmental pollution has negative connotations, because they can be directly correlated with the physical limits of the Earth, the limited supply of raw materials and non-renewable energy sources, and the obvious problem of pollution changes climatic conditions and the like. Therefore, there is already a sense that these two values should begin to control and change the legality of their growth, another way of management. Their growth can't be stopped, but it can and must slow down significantly. Real knowledge of the problem humanity has experienced with the first energy crisis in the early seventies of the last century.

The first three are the size of its growth mainly based on the growth of the other two. What will happen to them if they restrict the growth of the other two? The meaning of existence is to develop, and now mankind can't come to terms with their reduction.

But awareness about these indicators of development have changes. The first is targeted population that is moved to the second group, which is clearly the slowing increase or even decrease in the population of developed countries. No remains striving primarily to the increase in industrial production, which can no longer be based on the exponential growth of consumption of matter and energy. Dismissal of material limitations, filling the gap that occurs between the possible consumption of the desired effects can be achieved only with something that is not subject to physical laws, something that is immaterial, and that the information is widely understood as knowledge. Information becomes a critical resource that enables further development.

The growth area for the system which is readily available, a relatively large amount of resources needed, they appear to be infinitely large, and is not a limitation. As the system of its growth approaching real limits, so it appears that the effect of saturation slows the earlier rapid growth. For certain way management system there is a critical point that the system can't pass, though not reached the theoretical maximum. Further growth of the system is possible only by changing management methods. This growth is slower, but the state of the system approaches the maximum. If the control mode is changed, there are negative effects of restrictions that inflict losses the system, which can be a cybernetic point of view take on the characteristics of the rapid decay of the system.

The above examples should learn that the economic development is necessary to respect the real limits of the Earth as a planet. In economic theory it is now called sustainable development.

## **2. Information as a resource**

If we want to maintain anticipated increase in satisfying human needs in industrial products, in order to improve the quality of life, it is necessary to bridge the physical gap. It is obvious that he can't overcome the means and methods to arms, and it is necessary to find other solutions. This gap can be overcome only by something which is not subject to physical laws and limitations,

something that is immaterial, and that is the information that is being promoted in a resource that can compensate for limitations in the expenditures of material and ensure the continued growth and development of mankind.

If we view the information as a resource, it is recognized that its features quite exceptional. If the information is shared with others or passed, it does not lose its value. The information is not subject to the law of conservation of matter and energy. All other resources have become dependent on information, because without possession of information on the status, place and manner of their use, they become useless.

The impact of information and supporting technology on the structure and functioning of national economies, and the entire world economy, reflected in the macro scale in the creation, the rapid development and the growing importance of new economic activities, which directs the economic activity of mankind and concentrate them on the functions of the various ways to information. At the micro level, within the company, intensive application of information technology, there is a structural change that most impact on business processes and activities related to work with information, in terms of automation and computerization.

In the first phase of development of capitalist industrial production, in the era of primitive accumulation of capital, the basic resources base were financial means. All other resources is not enough available. This was followed by phase of development in which it is realized by increasing the consumption of material, raw materials and energy and physical labor, for which took place neo-colonial conquest and guided by the world wars. Easy even today we are not exempt from such events, things have changed. In the third phase, which begins with the energy crisis of the dominant resource for economic development becomes information. This does not mean that other resources are not important, on the contrary, but for their effective use of information is necessary or rather transformed information into knowledge.

### **3. Globalization**

There is no single and universally accepted definition of globalization. As a rule, attempts to define a single complex phenomenon fail, leading to a larger number of different definitions, depending on its purpose and use. This approach is the consequence of the definition of analysis. In accordance with the systematic approach is more appropriate to define the concept of globalization, giving all the relevant factors for its complete determination.

If he should opt for a definition, it would be in line with the position of most of globalization theorists who agree that globalization is a process that leads to the integration of the world in all aspects of civilization. In doing so, the emphasis is on the process, and the continuous change in the relationship.

It follows that globalization is not only an economic phenomenon, although the economic aspect of globalization is dominant. The notion of globalization is used in the context of different social sciences. Often in the same text the term globalization appears once in the function explanation of the economic problem, the second time the sociological, cultural third time, and then discusses the emergence of what is or is unable to determine a specific parent science. All this shows how globalization is highly interdisciplinary term, and as such should be viewed. Globalization is a process of economic, social, cultural, and political activity that exceeds the boundaries of nation states. It is not a passing trend, but a necessary process. Another question is how to relate to her because she is a supranational system that affects both internal and external policy of almost every country.

Globalization is often identified with the internationalization, liberalization, universalization or westernization. All these terms represent processes that drive the globalization process, but do not have the same meaning as globalization. These processes take place between countries that are political and territorial unit, while globalization presents relations on a higher level without borders and distances [2]. Therefore it is necessary to distinguish between the global economy from the international economy or the global politics of international politics.

Causes of globalization, there are also different views. On the one hand is an evolutionary approach that globalization is seen as a historical process. According to this interpretation of globalization is the result of long-term economic, political, and technological changes throughout the history of modern civilization. On the other hand is a revolutionary approach that looks at globalization as a type of change that radically break with the past, through a complete transformation and restructuring of the global social and economic relations.

### **3. 1. Economic aspects of globalization**

In economic terms, globalization is a process who reduce or completely abolish the barriers in international economic exchanges and increasing economic integration between the countries. This is the process of connecting industrial and financial activities on the world market, based on science and technology and information and communication revolution, and their achievements.

If we accept the evolutionary approach, the process of globalization began the industrial revolution and capitalist mode of production, whose aim is to acquire and increase profits. Profit can be increased by the faster growth of production of growth of costs, or reduced costs with the same level of production. Globalization has chosen both. The industrial revolution and technological advances have reduced the cost of production and facilitating the creation of new products, until then completely unknown. A revolutionary approach to the process of globalization is placed near the end of the 20th century, when the strongly driven by technological advances in telecommunications and transport, and in particular the development of information technologies.

No matter when you locate the start of the process of globalization, there is no doubt that the strong technological advances affected the decrease in transport and communication costs, so that today they do not represent a significant obstacle to international trade. Shall be adopted by numerous international standards of production, transport, payments, and to repeal the tariff barriers and protection. All this leads to a state in which the production of goods carried out in the place in the world where it can do the cheapest, and will be sold where it can achieve the greatest profits. It is enough that the structure and the amount of produced goods corresponds to the structure and size of the global demand. One way of achieving this condition is to download and mergers worldwide. The process of globalization enables these cross-border activities, while at the same time these activities promote the process of globalization.

Capital, technology, work and information as basic factors of production, and products and services in the global economy, the world freely. These factors range from the place where they are cheaper in the place where they are assembled, and production facilities to locate where it is cheapest. For older technologies to the developing countries, not only because of lower wages, but also because of lack of prescribed labor standards and environmental protection, low-level human rights, and the lack of organization of workers [3]. Underdeveloped countries accept the transfer of technology that is in the West long ago obsolete and overcome, because it provides some wage higher than the local average.

Multinational companies are bearers to the world economic processes, and the process of globalization. Just in their business can be seen power global integration. They are the bearers of



globalization because they open branches, stores and factories in any corner of the world if you so choose themselves, mainly administrative unfettered by national boundaries. But they are only one side of the globalized world. Without the other hand, you make the most of their consumers, all the efforts of the corporation would be almost futile. World population of young people is extremely numerous, particularly in southern and eastern countries of the world, and with that young people spend disproportionately large part of its income households.

The young members of the middle class in meeting their needs are not related to the geographic location in which they live. Through the Internet to buy worldwide, wear similar clothes, are the largest users of mobile phones, listen to world music hits or play the same game and collect the same frame. They clearly show membership in a global culture, taught in multinational companies, and to some extent adapted to local conditions. The global population of young people in advertising agencies is seen as one of the biggest marketing opportunity in history.

### **3. 2. The political aspects of globalization**

The process of globalization have launched a large and powerful, to be even bigger and more powerful. Therefore, the process of globalization much stronger effect on the small but great country. Smaller countries are generally more dependent on foreign trade than large, because any change in the world economy has a significant impact on the economy of a small country.

For transition countries, globalization is an additional challenge. There is no dilemma whether to engage in this process or not, but the only question is how to do it. Proper identification of the causes, effects and the process of globalization enables countries in transition and successful implementation of the transition process.

Globalization has accelerated its course especially after the collapse of the socialist countries, establishing dominance of neo-liberal concept of society and the dependence of post-socialist countries of the world centers of economic and political power. Globalization is a process of change in the world by the norms and rules of the game that set the interests of capital and political power.

The globalization process relativize the old principles and the basics of nation states such as territoriality and sovereignty. This ultimately leads to a redefinition of the meaning and role of the nation state. States in the process of globalization opens its borders and relativize them modern methods of communication with the help of virtuality of Internet space, where it does not matter on whose territory who is physically present. Part of the sovereignty of the state transferred to the supranational political structures, voluntarily, because it is in the national interest.

Nations who had ever had the good fortune earlier to create a national state, and in its framework to quickly develop, exhausted the model of the national state as the best framework development. Therefore, the start and in a way, the process of globalization imposed by abandoning classical concepts of national state. In contrast to the dominant big nations, small nations only in the midst of the process of globalization established their national state, or as soon as they start enjoying hard-won sovereignty, but they are facing the possibility of losing her. Many small nations are faced with the situation that their future default, and according to the rules laid down by the economic powers.

The unity of the national state and society with globalization becomes not only questionable, but endangered. That is why the national elites in some new nation states oppose the globalization process because they see in it a threat to national survival. Alternative globalization they find on the run in the past, but this approach has no future but only increases the cost of adapting to the

new conditions. The correct approach is to demand quality solutions for inclusion in the globalization processes, and the preservation of national interests in this way.

The power of transnational companies is extremely high to the extent that threatens the cessation of power of nation states. Governments of some countries sometimes become long arm of powerful corporations, putting in their ministry ignored the interests of those who elected them, and finding that their private interests.

Some authors believe that the greatest globalization changes occur in culture. Mass communication enables the spread of popular culture and the development of a global culture, and in particular ideology like democracy and modernization. The development of information and telecommunication technologies has led to the fact that today's communication and information connectivity eliminates the importance of physical connection, which is reflected in the appearance of compression of time and space, as well as assumptions globalization process. This expansion of global culture is a kind of threat to cultural and national identities that make up the diversity of the world, and some prominent intellectuals announce even the abolition of national diversity in terms of universal centralization and unification of the world.

At this stage the benefits of globalization are solely those of the private sector, and global enterprises in the form of multinational companies, which use existing underdevelopment and lack of other necessary global economic institutions to safeguard the interests of the majority.

For the first time in the history of modern global integration largest world economies are stagnating. The world recession again brought down prices of commodities that are the basis of exports of the Third World. On the other hand impoverished economy and ignored the country become a source of new resistance to globalization which is unfortunately sometimes in conflict with civilizational norms. Global terrorism is a consequence of the newly created poverty.

Although proclaimed as a way to make it better, globalization is not achieved. The rich have become richer and the poor even poorer.

### **3. 3. Technological aspects of globalization**

It is indisputable that globalization, what we see today, strongly stimulated or even at all provided strong technological progress in telecommunications, transport, and in particular the development of information technologies. Within the information technology necessary to emphasize the development of the Internet and modern informatics technology that represent a technological basis of the globalization process. That in turn has a special place electronic business, or e-business.

Although many in the business world clearly recognize the potential and advantages brought by the Internet and e-commerce, some deny them, and accept only when forced to do so. In the background of these attitudes is the ability of management to anticipate market trends, including changing behaviors and habits of consumers, in accordance with the changes of technology and the opportunities it provides. Those who do not accept such developments in the future will likely be suppressed with the current market position. The old business models and related business processes simply can't respond to modern market requirements. Modern business management tends individual approach to each customer, and that means accepting new models of e-business and building electronic architecture in the enterprise where Internet use is the basic business infrastructure. The overall growth of the use of the Internet, and the associated growth in online business transactions and increase the total value of such a turnover of goods and services, understands the need to adapt business models to new technology and new business conditions.

The focus of enterprise management is transferred to the management of supply, where cooperation and interaction with suppliers and key customers is the key to success. Support to this type of business, makes the development of new information systems and specific applications, which are aimed to take advantage of the Internet, and e-business.

It is inevitable that the e-business in the future turn out the possibility of improving the business and additional sales channels in the necessary and integral form of business, without which it will be impossible to imagine any business or daily life of people. In this very important role information systems that integrate all elements of business, and they optimize and coordinate, taking advantage of the interactive capabilities of the Internet and direct contact through it. Business process reengineering will eliminate, modify or automate repetitive tasks and operational intensive use of information technology, and employees will reorient the more interesting, but also demanding tasks use and interpretation of information in order to determine business opportunities, improve customer service and maintain their loyalty. This means that the education and knowledge to be an increasingly important factor in modern business, and the development of individual enterprise systems and society as a whole.

#### **4. IT and security of citizens in modern society**

Prevention of cybercrime can be seen from the aspect of active and passive prevention. The active prevention can be counted among the risk assessment of a computer system and its values, while the passive prevention is considered a permanent training of employees.

Computer security can be regarded as trade, and given the price and the security you just richest company can't afford protection against all risks (if that is even possible). Instead of paying the high cost of full security, most companies balance the cost of protection and the risk of possible consequences. The process of analyzing the computer system and making decisions about how to protect is called risk analysis, and the level of acceptability of the security risks the company is called acceptable risk.

#### **5. Conclusion**

For all acts of computer criminality we can say that is authentic, the negative side effects of a modern information society because it is achieved through the digitized electronic networks. Here we should point out that the legal science actively participated in the creation of favorable conditions and a framework for future development by encouraging and mobilizing social and economic actors on the prevention and punishment of abuse. Let us mention only the criminal law that is its preventive function greatly affected individuals, but also groups and are discouraged from committing criminal offenses. Multiple positive role of legal science as a whole is increasingly coming to the fore with the development of society and has a particularly important role in the modern development of the society. Criminal law protection remains one of the most important tools in combating computer crime except that it must not be the only response of society to abuse. It is, above all, refers to coordinated international cooperation due to the constant development and progress of technological innovation that deter potential offenders, allow the prevention of criminal acts, but also their rapid detection. Computer criminality and globalization have several common features, and one of the most prominent is that happen each day where computer criminality is a negative phenomenon, and globalization is a positive phenomenon in the modern society. When ask a question did the computer criminality have any impact on the globalization processes, it should be noted that it has because when it happens, it slows them down. Computer criminality should be prevented in order to globalization proceeded smoothly. Therefore, experts which dealing with the prevention of computer criminality should know something about globalization. This paper is perhaps the best introduction to it.

## REFERENCES

Šimundić, S.; Franjić, S. (2009.): "Računalni kriminalitet" (Computer criminality), Sveučilište u Splitu - Pravni fakultet, Split, Croatia, pp 155. – 164.

Mesarić, M. (2005.): "Informatička revolucija i njezin utjecaj na stvaranje informatičke, mrežne, globalne ekonomije – Analiza Manuela Castellsa" (The information revolution and its impact on the creation of computer, network, global economy - analysis of Manuel Castells), Ekonomski pregled 56 (5-6) pp. 389-422, Zagreb, Croatia, 2005.

Jakovac, P. (2012.): „Znanje kao ekonomski resurs: Osvrt na ulogu i značaj znanja te intelektualnog kapitala u novoj ekonomiji“ (Knowledge as an economic resource: Review of the role and significance of knowledge and intellectual capital in the new economy), Ekonomski fakultet, Fakultet poslovne ekonomije, Tuzla, Travnik, Bosnia And Herzegovina, Vol.1

**Mateja Gorše, doctoral student**

Faculty of Tourism and Hospitality Management  
Primorska 42, Opatija  
Phone: 051 262 799 Fax: 051 217 431  
E- mail address: mateja3007@gmail.com

**Goran Kutnjak, Ph.D. Associate Professor**

Faculty of Economics  
I. Filipovića 4, Rijeka  
Phone: 051 355 103 Fax: 051 212 268  
E- mail address: goran.kutnjak@efri.hr

**Mirjana Grčić Fabić, Ph.D.**

Faculty of Economics  
I. Filipovića 4, Rijeka  
Phone: 051 355 137 Fax: 051 212 268  
E- mail address: mirjana.grcic.fabic@efri.hr

## **BRANDING OF KVARNER REGION AS A BATHING DESTINATION**

### **BRANDIRANJE KVARNERA KAO KUPALIŠNE DESTINACIJE**

#### **ABSTRACT**

*Tourism of the Republic of Croatia, and Kvarner, as traditionally-marketing and promotion "synonym" for Primorje-Gorski Kotar County, represents a strategic economic activity. Accordingly, there are attempts to find different modalities for increasing the quality of the tourism product and increasing the competitiveness and realization of more substantial share of tourism in Croatian gross domestic product. Therefore, Kvarner represents receptive market, within which agricultural, but also all other products and services from the wider area of Croatia, are available to the tourist demand, as well as the very Primorje-Gorski Kotar County, by which also in the practical sense "universality" and the single economic objective about economic integration of the sea ("blue") and the continental ("green") line of Croatian and the County is realized. Approaches in modelling of competing diversification models are different within each Croatian tourist destination. Kvarner is basing its competitiveness, among others, also on the overall market offer of the quality and diversified Croatian products, using at the same time brand of bathing beaches as sales media. The intention is that Kvarner through systematic process becomes a bathing destination, since a significant portion of emitive tourist market perceives Kvarner with identification light motive of "sea and sea-based products" as the basic motive of tourist arrivals. Previous uneven and selective approach in the management of beaches, that is multiple diversification in determining the priorities of tourism development, as well as certain lack of systematicness in the repositioning of Kvarner as a destination of bathing tourism, represents certain limitations, but also unexploited possibilities for tourism development of Kvarner. Concretely, that was confirmed by the research results of the authors of this paper, regarding bathing beaches of Kvarner. In this paper, the authors have defined the importance of bathing tourism in Kvarner as a market, selling "media" for economic connecting of "sea" and "continental" Croatia, its historical dimension, as well as the necessity of repositioning the Kvarner as a destination of bathing tourism, and pointed to*

*the importance of managing the Kvarner beaches by establishing a balance between preserving the natural values of beaches and ensuring the sustainable use of their development potential through branding.*

**Keywords:** *Tourism, Kvarner, Branding, Bathing destination, Beaches*

## SAŽETAK

*Turizam Republike Hrvatske, ali i Kvarnera, kao tradicionalno-marketinški-propagandnog „sinonima” za Primorsko-goransku županiju, predstavlja stratešku gospodarsku djelatnost, pa se iznalaze različiti modaliteti za povećanje kvalitete turističkog proizvoda i povećanje konkurentnosti te ostvarenje što značajnijeg udjela od turizma u bruto društvenom proizvodu Hrvatske. Samim time Kvarner predstavlja receptivno tržište unutar kojeg se turističkoj potražnji čine dostupnima poljoprivredni, ali i svi drugi proizvodi i usluge sa šireg područja Hrvatske, kao i same Primorsko-goranske županije, čime se i u praktičnom smislu riječi ostvaruje „univerzalnost” i jedinstvenog gospodarskog cilja o ekonomskoj povezanosti morske („plave”) i Kontinentalne („zelene”) linije Hrvatske i same Županije. Pristupi u modeliranju konkurentskih diverzifikacijskih modela različiti su unutar svake turističke destinacije Hrvatske. Kvarner svoju konkurentnost bazira, između ostalog, i na svekolikoj tržišnoj ponudi kvalitetnih i raznovrsnih hrvatskih proizvoda, koristeći pri tome, brend kupališnih plaža kao prodajnog medija. Intencija je da Kvarner kroz sustavan proces postane kupališna destinacija, budući da značajan dio emitivnog turističkog tržišta percipira Kvarner s identifikacijskim light motivom “mora i proizvoda na bazi mora” kao osnovnog motiva dolazaka turista. Dosadašnji neujednačen i selektivan pristup u upravljanju plažama, odnosno višestruko diverzificiranje u određivanju turističkih razvojnih prioriteta, kao i određena nesustavnost u repozicioniranju Kvarnera kao destinacije kupališnog turizma, određena su ograničenja, ali i neiskorištene mogućnosti turističkog razvoja Kvarnera. To na konkretan način potvrđuju i rezultati istraživanja autora rada u svezi s kupališnim plažama Kvarnera u okviru kojeg su isti definirali važnost kupališnog turizma na Kvarneru, kao tržišnog, prodajnog „medija” za ekonomsko povezivanje „morske” i „kontinentalne” Hrvatske, njegovu povijesnu dimenziju, kao i potrebitost repozicioniranja Kvarnera kao destinacije kupališnog turizma te ukazali na važnost upravljanja kvarnerskim plažama uspostavljanjem ravnoteže između očuvanja prirodnih vrijednosti plaža i osiguranjem održivog korištenja njihovog razvojnog potencijala putem brendiranja.*

**Ključne riječi:** *turizam, Kvarner, bendiranje, kupališna destinacija, plaže*

## 1. Introduction

The Republic of Croatia is one of the most important tourist destinations in the Mediterranean, which has a long tradition and great development opportunities. According to available data (Croatian National Bank, 2016), tourism in Croatia generates 22% of GDP and it can be concluded that tourism is one of the best Croatian export products. The distinguishing characteristics of the Croatian part of the Adriatic Sea are the large disjunctive coastline, natural beauty and diversity, which favours the development of tourism and other economic activities. The Croatian coastline extends to a total of 5,835 kilometres in length, of which the mainland coastline of 1,778 km and 4,057 km island. Numerous coves, bays and peninsulas, 66 inhabited and 652 uninhabited islands and hundreds of smaller islands, islets and rocks, are the natural wealth of the Croatian that require proper evaluation. Croatia, based on the total length of the coast is way ahead of all Adriatic states (74%), it has a disjunctive coastline (ratio 11:10, the second in the world) and a large number of islands (1246), making it along with Greece, the first in the Mediterranean (Kovačić, 2014, 1). Within the unique

Croatian tourist environment, the Kvarner region is traditionally-marketing-advertising "synonym" for Primorje-Gorski Kotar County, with nearly 180 years of tradition, which offers a uniquely blended scenery of mountains and coastal areas within the Primorje-Gorski Kotar County, integrating three sub-destinations in a unique tripartite tourism entity. Above all, Kvarner region is also a big tourist market that satisfies the needs of the overall tourist demand, on one hand, and the tourist offer and tourist consumption on the other hand, making it organized, systematic and comprehensive, providing at the same time satisfaction and economic feasibility of business to the variety of manufacturers and service providers in the function of production itself and for the needs of the same market. What is especially interesting, in terms of perception and directing tourist rural development of Croatia, is the realization of the different sub-projects (at various levels of cooperation with a distinctive, unique character of cooperation) that are spread through the multi-year project "Green-blue Croatia", which is in identical way favoured on the "regional" level of "green-blue" Primorje-Gorski Kotar County. By looking at some of the most prominent representatives of the tourist offer of Kvarner region, Opatija deserves a special place because of favourable climatic conditions, and it has developed into an elite bathing and spa destination since the days of the Austro-Hungarian Empire. In addition to Opatija, the Riviera of Crikvenica and the islands of Lošinj and Krk impose themselves with their bathing recognisability. The history of tourism in this area dates back to ancient history. Thus, in the 19<sup>th</sup> century combination of the mild climate, sea, lavish vegetation and mountainous hinterland, caught the attention of wealthy Europeans for rest and well-being. At that time numerous luxurious villas, summer residences, hotels, pensions, sanatoriums, pavilions, swimming beaches, promenades and parks are built. For this reason, it was decided to declare Opatija a health resort in 1885, which it officially becomes in 1889 (Opatija – Congress destination with tradition, 2010). The start of development of island tourism in Croatia is dating since the second half of the 19<sup>th</sup> century (on Krk since 1866 and Mali Lošinj since 1885), after which some smaller island villages (eg. Malinska and Baška) have become the attractive tourist destinations and have been officially given the status of "climate locations" or "coastal and summer resorts" (Opatija – Congress destination with tradition, 2010). At the time, the first tourist guides that promote sea bathing are issued, and the statistical monitoring with the recording of the number of visitors started, later the overnight stays were also added (Mikačić, 1994, 518). In the early 20<sup>th</sup> century, Mali Lošinj became the largest island tourist resort (in 1912), and later (1914) the island of Rab had 6,000 visitors, and Opatija had 32,000 visitors. During the period between the First and the Second World War, when part of the coast belonged to Italy, island of Rab became the leading tourist destination in Croatia. On the island Rab, in 1939, there were over 123,000 recorded overnight stays (Mikačić, 1994, 518). Today, the Kvarner region registers tourist results which rank this sub-destination among the best tourist "regions" of Croatia. Kvarner region is one of the most developed tourist areas of Croatia with 173,000 accommodation units (20% of total tourist accommodation units), which generates about one fifth of the total Croatian tourist traffic (Development strategy of Primorje-Gorski Kotar County 2016.- 2020., 2015, 24), thereby, the role and importance of beach undoubtedly contributed to such enviable results, as a particularly important segment of Kvarner region tourist offer and one of the most important and most recognizable tourist resource. Therefore, the intention is to emphasize the importance of managing the Kvarner region beaches and establishing a balance between preserving the natural values of beaches, on the one hand, and ensuring the sustainable use of their development potential, on the other hand. Considering the further development, especially the opportunities in tourism, this scientific paper seeks to assess the possibility of repositioning and branding of Kvarner region as a bathing tourist destination, with an emphasis on the effective and sustainable management of beaches.

## **2. Defining the beaches as a development resource of bathing tourism in Croatia**

Bathing tourism is today mostly known as mass tourism, but it is assumed that the branding of certain areas and recognisability of certain natural and anthropogenic factors of individual regions, as is possible in the case of Kvarner region, means a completely new understanding of this type of tourism. The management of the beaches in Croatia is usually implemented through the institute of concessions, at the county levels in accordance with the maritime domain management plans. By proper valorisation of the advantages of Croatian beaches and bathing tourism in general, combined with cultural, environmental, health and sports tourism, the completely new sizing of this type of tourism is proposed. The systematic implementation of other significant resources, with listed bathing resorts and beaches, and their improvement, may achieve the recognition of certain tourist destinations. Beaches, in the context of their use, in accordance with the regulation on the procedure for granting a concession on maritime domain, are categorized as: a) arranged public beaches - beaches that serve a larger number of tourist facilities and citizens; b) arranged special beaches - beaches that make a technological unity vacation object and c) natural beaches - beaches where have not been executed interventions in the area (Magaš, 2014, 3). Starting from the above, the essential question is "What is the beach?" and analogous to that the beach can be defined as "an area of unconsolidated material that extends from the lower-water line toward the inland to places where there are obvious changes in material or physiographic forms, or to the line of permanent vegetation (usually this is limit to which storm waves reach). The sea border of the beach is, unless otherwise specified, the middle line of lower water" (Kovačić, Komać, 2011, 244). The factual state is that the hotel complexes are mostly located on the coast with arranged beaches and sandy beaches come in small number.

The beaches in Croatia take only 5,4% of its coastline (Sustainable management of beaches in Croatia, Guidelines and priority actions, 2009), and since they are interesting as a tourist resource, they are under intense anthropogenic influence. Thus, a well planned and effectively carried out beach management, especially in urban and resort beaches, can bring substantial income, due to the sustainable use of beaches, and the increased opportunities and recreational activities on the beach. If we observe the Croatian beaches from north to south of Croatia, the first bathing destination is Istria. The five most dominant Istrian beaches are - the bathing resorts in Medulin, Rabac, Poreč, Umag and Vrsar. Further south in relation to Istria is the Kvarner region, whose beaches and the necessity of branding them are the subject of this research, and are furtherly discussed in the paper. North Dalmatia includes many recognizable bathing destinations, especially on the islands. Destinations that stand out are Novalja, Zaton, Biograd, Bibinje and Murter. Central and Southern Dalmatia are characterized by sandy beaches and warm waters, and the most recognizable destinations are Bol, Makarska, Split, Hvar and Dubrovnik.

## **3. Scanning the tourist product of the Kvarner region with the emphasis on the bathing tourism**

Today when there is a great competition in the modern tourist market which imposes the need of designing and orientation of different quality of tourist development, it is impossible to imagine the further progress without a well designed marketing plan and constant improvement of the quality of supply, to meet the increased and challenging demand in the tourist destinations. Focusing toward a thoughtful strategic development and further development of marketing destinations, will have a major role in the repositioning of Croatian destinations in the tourist market. The list of the existing Kvarner region major tourist products "is derived" from its resource and attraction base and from the motives of arrival and activities of the guests in the Kvarner region, and these are: a) the sea and the sea based products ("sun and sea", nautical tourism, diving); b) the nature and the nature based products (hiking, walking, cycling, skiing / snow activities); c) the cultural and historical heritage and cultural products



(touring and themed routes, events and festivals) and d) special significant products (business tourism / congresses and meetings / incentives, wellness and health) (Sustainable management of beaches in Croatia, Guidelines and priority actions, 2009). According to that, the Kvarner region has so far built a destination image with clear sea water and distinctive coastline, and insufficient attention has been given to the tradition of the great historical and cultural heritage. The basic question is no more "where to spend your holidays", but the question is "how to spend your holiday", which presumes a high quality and richly planned holidays in your chosen destination (Kvarner - Strategic Marketing Plan for Tourism 2009 - 2015, Sub-regional Plan 2009). However, for the precise positioning of the Kvarner region and the preparation and drafting of a model of tourist development of Kvarner, a SWOT-matrix was made, outlining the major critical, developmental and content aspects.

*Table 1 SWOT analysis of tourism in the Kvarner region*

<b>STRENGTHS</b>	<b>WEAKNESSES</b>
<ul style="list-style-type: none"> <li>- climate</li> <li>- natural, cultural and historical heritage</li> <li>- tourist tradition</li> <li>- geo-traffic position</li> <li>- well preserved natural environment</li> <li>- high level of security</li> <li>- accessibility by sea, land and air</li> <li>- proximity to the source markets</li> <li>- strategic documents and plans</li> <li>- educational institutions for staff in tourism</li> <li>- concentration of wellness and thalasso offer</li> <li>- unique Austro-Hungarian architectural heritage</li> </ul>	<ul style="list-style-type: none"> <li>- prevailing of the traditional "sun and sea" product</li> <li>- pronounced seasonality</li> <li>- insufficiently differentiated offer</li> <li>- unfavourable accommodation structure</li> <li>- lack of tourist capacities</li> <li>- underdeveloped infrastructure</li> <li>- destination management</li> <li>- privatization and recapitalization of tourist entities</li> <li>- partnership in tourism</li> <li>- traffic problems</li> <li>- lack of tourist signalization</li> <li>- absence of well - known "brands"</li> <li>- lack of synergy effects</li> </ul>
<b>OPPORTUNITIES</b>	<b>THREATS</b>
<ul style="list-style-type: none"> <li>- new tourist products</li> <li>- selective forms of tourism (eg. nautical tourism)</li> <li>- diversification of regions and products</li> <li>- valorisation of the hinterland</li> <li>- continuous improvement of the integrated quality</li> <li>- the possibility of year-round business</li> <li>- attraction of better purchasing power guests</li> <li>- better positioning in markets</li> <li>- sustainable development</li> <li>- promotion of the local cultural identity</li> <li>- expansion of protected natural areas</li> <li>- integral destination quality</li> </ul>	<ul style="list-style-type: none"> <li>- conflicting options of development</li> <li>- competition from other Croatian coastal destinations (Istria, Dalmatia)</li> <li>- a growing number of "new" destinations</li> <li>- potential pollution</li> <li>- visual space pollution</li> <li>- excessive construction (marinas, apartments)</li> <li>- stagnation of the Rijeka Airport</li> <li>- overloaded space - exceeded - carrying capacity of the individual areas</li> <li>- the population number in the future</li> <li>- turbulent and unpredictable environment</li> </ul>

Source: Based on the authors' data processing (according to Kvarner - Strategic Marketing Plan for Tourism 2009 - 2015, Sub-regional Plan (2009): Riviera Croatian coast, Kvarner Tourist Board, Institute for Tourism, Zagreb)

Considering the factors of internal and external surroundings, which are evident from the SWOT analysis, and which, in a certain way, predetermine and dynamize a possible future tourist development of the Kvarner region, beaches however, impose themselves as a strong development "trump card", but also as a "challenge" in terms of a possible potential of branding the Kvarner region, or as the most recognizable part of the tourist offer of individual micro and macro destinations of Kvarner. Among these are, for example: Vela plaža in Baška, Sipar in Mošćenička Draga, Medveja in Medveja and Rajska plaža in Lopar on the Rab island, which have been included in some of the world's top-list of the most beautiful beaches. Similarly, the essence of the issue in terms of achievement of certain strategic policy is "whether to create a product with the brand?" or "to be satisfied with a product with no brand?" which represents the conceptual definition of marketing policies. Creating a desirable and recognizable brand products is not only a path, but also an essential framework for the optimal target recognition and evaluation, and that is, among other things, the achievement of continuous competitiveness of the Croatian tourist industry. Opatija Riviera is also known as traditional and modern Riviera - destination ("Little Cannes"), with a long tourist tradition. Furthermore, it is a recognizable term, both in the domestic and foreign markets, and in the future, such status must be proved and maintained and could soon become all year-round tourist destination, which could provide a variety of winter recreation, sports and entertainment programs - primarily improving health offer in a way of linking health care institution "Thalassotherapia" with holders of hotel and other tourist offer, such as bathing resorts. The areas of Crikvenica and Vinodol are rich in sandy beaches, which are included in the promotion of these destinations as their brand and, therefore, particularly attract foreign tourists because of the quality of the additional facilities for families and youth. The islands of Cres and Lošinj are famous for many wild natural beaches such as Sveti Ivan - Lubenice (Cres). Of all the beaches on the island of Rab the 2 km long sandy Rajska plaža (Paradise beach) stands out, along which all the major Lopar catering facilities are located. Rijeka, the administrative centre of Primorje-Gorski Kotar County and once a distinctive industrial centre of the Kvarner region, includes many beaches within its area, which are mainly used by citizens and residents of the narrower and wider surroundings.

The beaches in the world are an important source of income and in the Kvarner region more and more attention is given to their use for commercial purposes. Consequently, beach resorts and hotel beaches are subject of the increased interest of the public administration and the local population, and other users, but also for economic and other entities, because they bring: direct benefits (financial resources from taxes, ticket sales, concession fees, etc.) and indirect benefits (raising the overall quality levels of service, additional employment, etc.) (Official Gazette, 2014). The management of the Kvarner beaches is entrusted to the regional and local government. The function of the beach management and decision-making on how to use them is very complex. Much of the burden is on the public administration that should find ways to improve the communication and coordination of all interested parties. The management plan of beaches procures the concession approval in three groups: a) the rental of resources, b) hospitality & trade and c) commercial and recreational facilities. The organ of Primorje-Gorski Kotar County has franchised around 40 beaches, which is a very small number compared to more than 300 beaches that are found in its territory.

As an important indicator and value segment of systematic and quality beach management and branding beaches is the "Blue Flag" for the beaches and marinas, which represents an international environmental program to protect maritime and coastal environments, which primary goal is the sustainable management of the sea and the coastline. It is the best known model of ecological education and public information, when it comes to the care of the sea and the coastline (Blue Flag, 2014).

#### **4. Branding - the positioning factor of Kvarner region as a bathing destination**

In order to achieve a successful branding of tourist destination, the brand must become vital for the entire tourism demand (consumption) and all tourists and visitors that come to the destination. Regardless of the fact that a place, island or city encompasses modern hotels, conference facilities, a unique cultural heritage, natural attractions, entertainment or other forms of tourist attractions, by which they are trying to attract attention and increase their value, the future attraction accomplishment for tourists depends on their ability to create a unique identity and differentiation in relation to competition. On the market, in which it is necessary to convince tourists to visit the destination, tourists should be offered a unique experience, and then they will make a decision on choosing the destination based on their feelings and state of mind, and not just on the price. No matter how familiar destination is, or how rich its culture and its natural beauty are, the most important value of the destination is how visitors experience it, how they were treated and how they felt during their stay at a particular place. Similarly, the process of building a tourist brand is a long and tedious one, but it is also multi-profitable. Regarding the destination branding, there are no two equal approaches and there is no single formula for success, but in any case it is an important conscious and planned activity to guide the development in a certain area and to perceive the destination as a tourist product, for which market competitiveness is essential, and on which maintenance one must work continuously (Gregorić, Skendrović, 2012, 43). Seen in a wider context, "branding" is a marketing and management process that provides a particular product, service or organization a unique identity, and in this way allows it to be clearly and positively identified, and as such distinctive and recognizable from the competition. Compared to the conventional products and services, branding of geographical areas and tourist destinations (cities, regions, countries ...) is a process in which "a region" actively creates a unique and competitive identity for itself, with the aim of better positioning on domestic and foreign markets as the desirable destination for tourism, trade, investments.

Repositioning the Kvarner region and development of beaches as a brand are based on the characteristics of destinations' identity on the one hand, and the needs and expectations of targeted "new tourists" on the other hand. In doing so, the Kvarner region brand is developed, and at the same time it complements the top brand of the Kvarner region. The goal is the "brand story" which is innovative, relevant to the customer, authentic and realizable for the Riviera, and that will contribute to the creation of a positive image and market recognition. There are many unique attributes of the Kvarner region, but these stand out: the longest health-tourist tradition on the Adriatic coast, a spacious diversity, an active year-round residence offer, the application of the principle of sustainability, the most accessible Adriatic region to the Central Europe (Kvarner - Strategic Marketing Plan for Tourism 2009 - 2015, Sub-regional Plan 2009). The primary value and brand power of the Kvarner region is a good sense of well-being, health, positive energy and pleasure, while the personality of the Kvarner region brand is "moderate, versatile, vital, funny, open". From the foregoing, it is clear that the Kvarner region would not be as recognizable without its beaches and the development of bathing tourism. It is therefore proposed that the Kvarner region should finally be branded as wellness and well-being destination and in terms of the bathing destination, and that the beaches, as the holder of all activities related to this type of tourism, should finally be organized and branded according to the demands of the new tourists. What is important is the variety of content that this destination offers, which complements the basic motive of the rest at the sea (e.g. a tour of attractions, events and festivals, wellness, sports, walks, gastronomy, excursions) (Gregorić, Skenderović, 2012, 44). The arrangement of the beaches and the level of organization may vary depending on the destination and its branding, but the cleanliness of the beaches, regulated access to the sea and the sunbathing areas are always important factors. It should be kept in mind that the product of the sun and the sea is based on the attractiveness of the beaches. Orderliness of the coastline is also crucial.

In order to brand the Kvarner region as a bathing destination, in addition to a number of investments that are made during the pre-season in the Kvarner region, a unique project, that could greatly facilitate the management of the beaches and preserve them in accordance with the sustainable development, was presented in September 2013 - "1.000 hrvatskih plaža - Jadranske morske zvijezde Kvarnera" ("1,000 Croatian Beaches - The Adriatic Sea Stars of the Kvarner Region"). The same project has been used to identify the beach areas in Primorje-Gorski Kotar County, their specific characteristics, and by the strategy of differentiation they were offered certain themes. The criteria for classification of beaches by theme were set, determined by the categorization of beaches, and the management model was proposed within the destination management with the aim of raising the offer of the beaches in Kvarner region. For example, some beaches are ideal for families with children, some are more appropriate for diving tourism, and some are best defined as the beaches for young people. Some of the proposed themes are, for example: urban promenade beaches, romantic beaches, beaches with sports and recreational facilities, adrenaline beaches, beaches for surfers, nudist beaches, dog beaches, eco beaches, beaches for same-sex couples, culture beaches.

By being aware of the fact that the branding of beaches is an important development segment and that importance of bathing tourism is essential for the purpose of valorization of the complete tourist product of the Kvarner region as a tourist destination, as well as for the segmentation of the total economy within the Croatian borders, and also for the orientation of the tourist development of the Kvarner region, the authors of this paper conducted a concrete empirical research. It is important to note that this study is compatible to the further implementation of the "Green-blue Croatia" project and that in some way advocates it. Its distinctiveness is in the availability of different, environmental, healthy, high-quality, culinary, agricultural, hospitality, cultural, historical and other overall products, services and contents of "green" Croatia and its counties, that aim to present a multifaceted Croatia as a unique value eco-system and thereby identify, present and increase the content and quality of tourism and the destination itself within the maritime - coastal or "blue" Croatia. A significant link between "green-blue" Croatia and the County is that the bathing tourism is one of the main goals of tourism of Kvarner region, an important "medium" and the basis for placing these overall continental products and services. Specifically, in order to examine the opinion of the local population of the Kvarner region on beaches and bathing tourism as a probable potential brand, a survey was conducted by the authors of the paper via social networks. The survey was conducted during May and June 2014, and it covered 104 respondents - residents of the Kvarner region area, which basically makes 100% of respondents. The gender distribution of that number was: 77 women (74%) and 27 men (26%). The age structure was represented as follows: 44 respondents (42%) were 18 to 24 years old, 25 respondents (24%) were 25 to 31 years old, 16 respondents (15%) were 32-38 years old, 12 respondents (12%) were 39 to 45 and 7 respondents (7%) were over 45 years. As for the qualification structure, 57 respondents (55%) had a college or university, 46 respondents (44%) had completed the high school and only 1 respondent (1%) had primary school education. Of those, 44 surveyed respondents (42%) were full-time employees, 36 respondents (35%) were still students, 21 respondents (20%) were unemployed and 3 respondents (3%) were retired. The results of research show certain conclusions, which clearly indicate that Kvarner region as a destination would not be recognizable without its beaches and its overall contribution to the development of bathing tourism, which are the main factors of development of other selective types of tourism (health, sports, culture...). The research results are evident in the following table.

*Table 2 Identification of Kvarner region beaches as a brand resources - survey results*

<b>1. Do you want to know more about the project "1,000 Croatian Beaches - Adriatic Sea Stars of the Kvarner Region"?</b>	<b>Number of respondents</b>	<b>%</b>
Yes	79	76
No	25	24
<b>2. Do you think that the beaches of the Kvarner region are appropriately decorated and equipped?</b>		
Yes	26	25
No	78	75
<b>3. Do you think the Kvarner region destination is primarily a bathing tourism destination?</b>		
Yes	66	63
No	38	37
<b>4. In your opinion, who is most responsible for the maintenance and development of beaches in the Kvarner region?</b>		
Local government unit - city/municipality	51	49
Tourist board	37	35
Local residents	11	11
Business subjects - concessionaires	5	5
<b>5. Evaluate the work of local government units and their attitude towards the beaches.</b>		
Very active	1	1
Moderately active	71	68
Somewhat active	32	31
<b>6. What is your attitude towards the beach concessionaires?</b>		
Positive	56	54
Negative	2	42
Neutral	46	44
<b>7. In your opinion, what should be improved regarding the present state of beaches?</b>		
Arrangement - tidiness of beaches and cleanliness of water	23	22
Additional activities for kids	8	8
Accesses to the beach and adequate parking space	21	20
Catering facilities	15	14
Deck chairs/umbrellas for rent	6	6
Themed - branded beaches	31	30
<b>8. In your opinion, which advantages do themed and branded beaches in the Kvarner region bring?</b>		
Arrival of tourists with bigger purchasing power	19	18
Higher earnings	23	22
Ecological preservation of beaches and the environment	28	27
Better promotion of the Kvarner region as a destination	34	33
<b>9. Choose one of the projects that you think would be most useful to the development of bathing tourism in Kvarner region.</b>		
The new "Slatina" beach resort	55	53

The new "Lido" beach resort	7	7
The Crikvenica Riviera project - "Integrated Coastal Zone Management"	15	14
New concessions of the Medveja beach	27	26

*Source: Results of the empirical research conducted by authors in May-June 2014*

According to the research results, it is insisted that the Kvarner region, as a wellness and well-being destination, is finally branded also as a bathing destination, and that the beaches, as the holder of all activities related to this type of tourism, finally get in order and brand accordingly to the wishes of new tourists. Above all, as there is still no accurate data on the total number of beaches (the cadastre of the beaches) on the Croatian Adriatic coast, the new project "1,000 Croatian Beaches - Adriatic Sea Stars of the Kvarner Region" is one of the most important projects in recent years in terms of branding the Kvarner region tourist product. It is a fact that the Kvarner beaches may be the most important spatial and development factor of the Kvarner region, but also the backbone of the development of sustainable tourism, and which, unfortunately, at this moment are neither environmentally nor economically adequately valorized. Furthermore, bathing tourism is the bearer of the touristic offer that in terms of further strengthening of the "green-blue" Croatia project and the County still has the opportunity and commitment to strengthen, for the purpose of qualitative and meaningful refinement of tourist destination offer, as well in the context of linking broader Croatian national interests.

## 5. Conclusion

The area of the Primorje-Gorski Kotar County of the Republic of Croatia is determined by its islands, coastal, littoral and mountain area. In terms of tourist, marketing and advertising purposes, this is a destination traditionally called Kvarner, and its participation is significantly enviable in all segments - in tourist traffic, accommodation facilities, number of employees, and effectuation of foreign currency inflows from tourism. On the other hand, the Kvarner region represents a significant tourist, trading and cultural market within which the tourist consumption makes various products, services and other facilities available from the wider production and service-cultural areas of Croatia and the County, which in a way also confirms the practicality, and the feasibility of the idea of integrating "green" and "blue" Croatia, that is, the County. To maintain such constants in tourism, as one of the most important, strategic backbone of overall economic development and growth, certain natural-qualitative-content predispositions are needed, which maintain and direct the competitive position of the destination and its strength. The Kvarner region beaches represent one of the most important natural and/or artificial resources of the tourist offer, which, unfortunately, are not sufficiently valued nor they accumulate the total potential social and economic benefit. Therefore, there is a question of systematicness, adequate approach, functionality and justification of the previous way of beach management, which would, in any case, have to bring out some new models of their management. Regarding the number of beaches, their capacitive power, the degree of infrastructure construction, the character and the quality of supporting facilities, often dubious financial justification of business, as well as overall, under-valued segmentation in the tourist product, it is a fact that the beaches must be branded as a unique tourist product and development marking point of bathing and other types of tourist offer in the Kvarner region. The former indifference of management structures - beach owners, as well as concessionaires, insufficient infrastructure facilities, inadequate quality and diversity of services, insufficient attention to marketing, etc., are just some of the limiting factors of bathing tourism development and the Kvarner region destination itself, which should be systematically, primarily, in principle and uncompromisingly oppose to in terms of further strengthening the competitiveness of the tourist product of the destination, and the beach branding is "only" one of the appropriate "approaches" in defense of these social and economic interests.

## REFERENCES

- Blue Flag* (2014), in: <http://www.lijepa-nasa.hr/plava-zastava.html> (accessed March 2014)
- Croatian National Bank (2016): *Bulletin*, in: <http://www.hnb.hr/publikac/bilten/arhiv/bilten-221/hbilt221.pdf>, (accessed February 2016)
- Development strategy of Primorje-Gorski Kotar County 2016.- 2020.* (2015): Primorje-Gorski Kotar County, Rijeka
- Gregorić, M., Skendrović, Lj. (2012): *The role of entrepreneurship and lifelong learning in the branding of tourist destination*, Entrepreneurial Learning, Vol. 2, No. 2, pp. 43-51.
- Kovačić, M. (2014): *The management of beaches in Croatia – questions and dilemmas*, in: <http://www.pomorskodobro.com/fokus-kovacic-srpanj.html>, (accessed March 2014)
- Kovačić, M., Komač, A. (2011): *Questions about the management of the beaches in Croatia, with an emphasis on Zadar County*, Our Sea, International Journal of Maritime Science & Technology, Vol. 58, No. 5-6, pp. 244-255.
- Kvarner - Strategic Marketing Plan for Tourism 2009 - 2015, Sub-regional Plan* (2009): Riviera Croatian coast, Kvarner Tourist Board, Institute for Tourism, Zagreb
- Magaš, D. (2014): *National program of management and planning of beaches - an action plan*, University of Rijeka, Faculty of tourism and hospitality management, Opatija
- Mikačić, V. (1994): *Croatian island tourism*, Društvena istraživanja: Journal for General Social Issues, Vol. 3, No. 4-5, pp. 517-529.
- Sustainable management of beaches in Croatia, Guidelines and priority actions* (2009): United Nations Development Programme, Association for Nature, Environment and Sustainable Development the Sun, Zagreb
- Official Gazette* (2014), Official Journal of the Primorje-Gorski Kotar County, year XXII., no.25, in: <http://www.sn.pgz.hr/default.asp?link=sadrzaj&Izdanje=902>, (accessed March 2014)
- Opatija – Congress destination with tradition* (2010): Tourist Board Opatija, Convention & Incentive Bureau, Opatija

**Vladimir Grebenar univ. spec. oec**  
Vinkoprom Ltd. /  
Z. Sremca 47, 32100 Vinkovci  
Phone: 00385994394044  
E-mail address: vladimir.grebenar@gmail.com

**Eugenija Nemeth, MSc in International Management**  
Columna Ltd.  
Zagrebačka 4, 32100 Vinkovci  
Phone: 00385098217499  
E-mail address: columna@columna.hr

**Josip Britvić, univ. spec. oec.**  
Top Consult Group Ltd.  
M.P.Miškine 88, 48363 P.Sesvete, Croatia  
Phone: + 385 99 2897 601  
E-mail address: josip.britvic@top-consult-grupa.hr

## WHOLESALE CUSTOMER AS A COST-OBJECT

### KUPAC KAO NOSITELJ TROŠKA

#### ABSTRACT

*The modern businesses are more than ever relied on computerization of their business processes. The wholesale is no exemption to that so the business process computerization has established necessary conditions for business activity recording with regard to wholesale customer relationship management. The main goal of this paper is to describe the methodology which can be applied as a guideline applicable to the implementation of wholesale performance measurement systems that can provide an analysis of customer profitability. The second goal is to analyse the relevant literature and to find out the methodologies for calculations of revenues and expenses pertaining to a customer as a cost object. The methodology is described as report generation methodology, basic rules for cost calculations and literature overview. The academic contribution of this paper and methodology is that can be used in every manufacturing, service, or trading company.*

**Key words:** Wholesale, cost-object, computerization, customer profitability

#### SAŽETAK

*Moderno poslovanje se sada više nego ikad oslanja na informatizaciju svojih poslovnih procesa i veleprodaja nije izuzetak tome. U procesu veleprodaje nužno je primjenjivati informatizaciju kako bi se uspostavili preduvjeti za praćenje i mjerenje rezultata tog procesa s sve s obzirom na upravljanje odnosa s kupcima u veleprodaji. Glavni cilj rada je opisati metodologiju koja se može primijeniti kao smjernice primjenjiva kod implementacije sustava mjerenja performansi u veleprodaji a koji mogu pružiti analizu profitabilnosti kupca. Drugi cilj rada je analizirati relevantnu literaturu i u njoj pronaći metodologije za izračune prihoda i rashoda koji se odnose na kupca kao objekta troška. U radu je opisana metodologija, osnovna pravila za izračunavanje troškova te pregled relevantne literature. Akademski doprinos ovog rada je da se metodologija*



*prikazana u radu može koristiti u praksi odnosno u raznim tipovima proizvodnje, uslužnih djelatnosti i trgovini.*

**Ključne riječi:** *Veleprodaja, objekt troška, informatizacija, profitabilnost kupaca*

## **1. Introduction in buyers performance measurement**

Performance measurement of product, service, and goods wholesale activities presents a challenge to organizations regarding organizational structure, performance measurement accounting systems, business strategy, quality improvement systems, and solutions for organizational problems that are expected to establish sustainability of long-term work motivation. Measurement of wholesale processes performance aims to keep control over the planned sales processes. Management implies a control of processes with wholesale being one of the key processes of every manufacturer. Additionally, wholesale is a key process in many trading companies. Quality process management is based on Deming's PDCA theory (Plan – Do – Check – Act). Customer relationship management cannot be consistent without a quality sales performance system. From the point of view of strategic management, wholesale customer relationship is the foundation of every business strategy. The same is valid for many trading companies which are located within the value added chain where wholesale customers are the key stakeholders in the exchange relationship. The companies whose markets are industrial wholesale markets are oriented towards the fulfillment of needs of those markets, i.e. wholesale customers. However, the demand for a credible information foundation, as well as timely and precise information used by decision makers is complex because it requires an accurate design of the accounting system used for the preparation of business performance reports. Every business organization, including those which sell their outputs on wholesale markets, has to fulfil the following organizational requirements which are both a prerequisite and target of performance measurement implementation:

- a) Business segmentation with the purpose of establishing responsibility centres for process efficiency
- b) Responsibility allocation
- c) Business goal and operation planning
- d) Operation execution aligned with quality systems
- e) Control of results and operation execution quality
- f) Just compensation based on performance.

The most important requirement of all the above listed regarding the organization of prerequisites for performance management based on accurate and timely information is a well-performed business segmentation. Business segmentation is a segmentation into organizational units and business processes (i.e. segments) which has to be rooted in firm logic. Adversly, it could provide inaccurate reports and information. To conclude, if segmentation lacks logic, responsibility delegation and process management cannot be expected to produce long term quality and excellence.

MSFI 8 defines a business segment as a part of a subject that a) executes business activities which result in revenues as well as costs, including revenues and costs that are related with the transactions and other components of the same subject; b) whose business results are monitored on a regular basis by the main business decision maker so that they could decide on resource allocation to the segment and evaluate its activities; c) can be allocated financial information. Generally, a business segment has its own manager responsible to the main business decision maker with whom he maintains a constant contact with regard to business activities, financial results, forecasts, and

segment plans.' Academic managerial accountants define segments as ' *a part or an activity in an organization which is expected by managers to provide data on costs, revenues, and profit. Examples of business segments are production lines, customer groups (segmented on their age, ethnicity, gender, buying volume, etc), geographic region, business divisions, departments, and sectors...*' (Garrison, Noreen, Brewer, 2012:3).

## **2. Report generation methodology**

Wholesale buyer performance measurement report is a large project challenge. The principal challenge is the complexity of cost and expenses calculation which should be allocated to buyers as cost objects. Every company that wants to measure its wholesale efficiency has to establish organizational conditions that enable an accurate, timely, and good quality generation of reports and data. These organizational preconditions should be established prior to defining report forms and the methodology of a customer's revenue and expenses calculation and they should include the following three segmentation processes:

- a) Organizational segmentation in organizational units functioning as responsibility centres (responsibility accounting)
- b) Segmentation of organizational units according to cost pool and cost centres that can be used to categorize key sales processes
- c) Segmentation based on cost objects

The very first precondition for wholesale performance management is the first organizational segmentation. It involves a segmentation of the business system that functions as one entity into more organizational units which can be assigned planning responsibility and business operation execution. Business organizations that have difficulties in the assignment of responsibilities cannot implement performance measurement accounting systems. In this case it is not possible to get an accurate performance measurement report regarding any business process. Therefore, the first organizational segmentation is a prerequisite for work organization based on an organizational structure supported by clear hierarchy and mutual relationships. In other words, the first segmentation refers to the segmentation into organizational units. In both manufacturing and trading companies this can include functional areas such as manufacturing, purchasing, finances, sales, marketing, etc.

The second prerequisite for wholesale performance measurement is the second organizational segmentation. Unlike the first segmentation, this step presents an extension to the first step and it refers to organizational processes that are of key importance for the success of the business and its organizational units. Therefore, the processes for which responsibility is more difficult to be assigned to just one center are segmented in a separate together with those processes that should be planned and controlled separately. The second segmentation is based on cost pool and centres. In a manufacturing company cost pool and cost center can refer to a machine or manufacturing line, whereas in a trading company it can be a shop.

The third wholesale performance measurement refers to the segmentation based on cost objects. It includes a further segmentation of processes into single processes occurring at a cost pool/centre which result in outputs exchanged on the market. The cost object is the final output or the output of a process that can be exchanged on the market. In a manufacturing company the cost object is a product, while in a service company it is a service and in a trading company it is the trading goods.

Every business activity results in particular costs as it spends the basic production resources. These activities are recorded in accounting and consequently it can be argued that '*Accounting is the language of business*' (Horngren, Harrison, Oliver, 2012: 2). In case of financial accounting, an activity is entered into books, whereas in case of managerial accounting it is recorded. Wholesale performance measurement is a field of managerial accounting. Costs as well as expenses can be divided in the wholesale customer performance report as follows:

1. Direct customer costs
2. Indirect costs of the business segment allocated to the customer
3. General business costs allocated to the customer
4. Direct and indirect budgeted costs allocated to the customer

A detailed analysis of this segmentation, structure and accounting methodology follows.

The basic rules applied to cost calculation based on cost objects are as follows:

1. **The first basic rule: you have to allocate cost to cost pool/centre first, and only then you can allocate cost to cost object, i.e. you cannot allocate cost to cost object without allocating it to cost pool/centre.**
2. **The second basic rule: cost object can be allocated fewer direct costs compared to cost pool/centre, i.e. a part of direct costs allocated to cost pool/centre becomes indirect costs allocated to cost object.**

Therefore, cost pool demands more records than cost objects. This implies that a machine as a cost pool/centre can produce five different products that are cost objects.

Three different cost categories (as well as expenses) can be discerned. They are part of sales performance report and can be divided into direct, indirect, and general costs allocated to cost object.

- a) Direct costs allocated to cost objects are only those costs that can be affirmed to have resulted during the management of the wholesale customer interaction process. They have to be entered into the accounting management system as direct costs allocated to the customer (all the information entered within the business segment). They are as follows:
  - i. Direct labour spent on customer relationship management
  - ii. Direct materials, goods, and services allocated to the customer
- b) Indirect costs allocated to cost object are all other direct costs of a business segment in which the customer as a cost object is present, but which have not been allocated to cost object (customer)
  - i. Direct labour performed by salespeople within a particular cost pool/centre (e.g. a shop) which has not been directly allocated to a cost object (customer)
  - ii. Direct materials, services and other expenditures allocated to cost pool/centre which cannot be directly allocated to any cost object
- c) General costs allocated to cost object are all general costs of a company, i.e. all the costs which occurred within a particular period that can be allocated to cost pool/centre based on a certain principle. They are further allocated from the cost pool/centre to cost objects:
  - i. Marketing, sales, distribution, administration, i.e. costs occurring in a certain period

Budgeted costs belong to a special cost category. There are some reasons why they should be made part of wholesale customer performance reports:

- a) period costs allocated to cost object are fixed and depend on the overall sales volume, which can be defined only at the end of the accounting period so that these costs should be planned (budgeted) based on wholesale prices of products and goods.
- b) Some costs occur only at the end of the year, which requires performance measurement in shorter intervals (monthly, quarterly). These costs should be planned on a monthly basis (normal costing).
- c) Some costs cannot be controlled by responsibility centres. Consequently they have to be accounted for in planned amounts so that selling prices could cover all the costs (influence to cost controllability).

Managerial accounting theory distinguishes between actual costing and normal costing. A comparison between planned and incurred costs as well as an analysis of the ensuing difference is of crucial importance for decision makers.

*Table 1 A sample report on wholesale efficiency*

No.	REPORT OF WHOLESALE EFFICIENCY	NT:
	REPORT FOR THE PERIOD OF	COSTS AND EXPENSES
	DESCRIPTION	
1	<b>TOTAL COSTS AND EXPENSES</b>	
2	<b>TYPES OF COSTS</b>	
3	Material costs	
4	Other external costs – external services	
5	Staff costs - salaries	
6	Value alignment of pensions	
7	Other business costs	
8	Financial costs	
9	Other costs	
10	<b>COSTS OF INTERNAL ACTIVITIES (TRANSFER PRICES)</b>	
11	Costs of internal transport and vehicles	
12	Costs of interval services	
13	<b>EXPENSES FOR THE PERIOD OF</b>	
14	Expenses of inventory and services sold	
15	Expenses of wholesale products sold	
16	<b>GENERAL AND INDIRECTS COSTS AND EXPENSES</b>	
17	General costs and expenses of the company for the period of	
18	Indirect costs and expenses of a business segment	
19	<b>BUDGETED GENERAL AND INDIRECT COSTS AND EXPENSES</b>	
20	Budgeted general costs and expenses of the company	
21	Other budgeted indirect costs	
22	<b>INCOME</b>	
23	<b>INCOME FOR THE PERIOD OF</b>	
24	Income from products sold	
25	Income from services sold	
26	Income from leasing	
27	Income from wholesale	
28	Financial income	
29	Other extraordinary income	
30	<b>INCOME BEFORE TAXES (EBT)</b>	

31	<b>NET INCOME (20% VAT)</b>	
32	<b>INCOME BEFORE TAXES (EBT) including budgeted calculations</b>	
33	<b>NET INCOME (20% VAT) including budgetary calculations</b>	

Source: Authors

Table 1. contains a report for wholesale performance measurement. It can be applied for performance measurement of one customer (analytical approach) or it can synthesize a large number of customer to provide performance measurement of wholesale manager and compensation based on performance.

### 3. Literature overview

Despite numerous attempts to change the approach to recording business activities while disregarding the importance of cost recording based on cost pool/centre and cost objects, this has not been done. The attempt to make a transition from profit centres to strategic business units has been successful only from the point of view of organization. The way of recording and reporting on business activities has not changed. Kaplan's ABC method was revolutionary, however, this approach has not decreased the importance of the traditional cost pools/centres and cost objects. Moreover, the ABC approach to calculating general costs has increased the importance of traditional cost objects (revenue centres, cost centres, profit centres, investment centres). Accounting as a science has not found another technique for recording business activities so that traditional cost objects are still in use. Goldrat's theory of constraints as well as the throughput method are further attempts to eliminate the meaning of traditional cost objects and traditional accounting. The Throughput Accounting has stemmed from this theory. It considers all costs as either fixed or variable and it aims at an optimum use of inventory. However, this approach can be used in only a limited way during shorter periods of time. A modern approach to wholesale performance measurement is known as Customer profitability analysis. It can be compared to Product profitability analysis. The analysis of wholesale performance considers the customer as a cost object. „*Customer-profitability analysis is the reporting and assessment of revenues earned from customers and the costs incurred to earn those revenues... Managers use this information to ensure that customers making large contributions to the operating income of a company receive a high level of attention from the company.* (Horngren, Datar, Rajan, 2012: 510).

Scientific literature on cost and managerial accounting discusses the analysis of wholesale customer profitability. Customer relationship management is the focus of a business strategy. *Success in the customer perspective should lead to improvement in the financial perspective objectives for growth in revenues and profits.*“ (Atkinson, Kaplan, Matsumura, Young, 2012: 27). Customer relationship management strategy requires a performance measurement system. Academic accountants have not provided a uniform design for wholesale performance measurement. They argue that direct costs such as the cost of contract, transport, special packaging, sales staff, marketing and advertising, can be directly allocated to the customer. All other costs are indirect and they are allocated to the customer using the allocation method for general (overheads) costs.

### 4. Conclusion

Business process informatization has established necessary conditions for business activity recording with regard to wholesale customer relationship management within a company that manages its wholesale customer relationships. The accounting department is expected to provide a reliable record keeping of business activities, i.e. to allocate costs and revenues to particular customers as cost objects in order to perform a timely and accurate profitability analysis. The

renowned academic accountants as well as the available literature do not focus so much on the calculation of revenues and expenses pertaining to a customer as a cost object, but rather concentrate on the importance of keeping record of business activities and the relevance of analysis applied to strategic and operational decisions. This paper is a contribution to managerial accounting. The methodology described in the paper should be applied as a guideline applicable to the implementation of wholesale performance measurement systems that can provide an analysis of customer profitability. The sample customer profitability report can be used in every manufacturing, service, or trading company.

## REFERENCES

Atkinson A. A., Kaplan R. S., Matsumura E. M., Young S. M. (2012). *Management Accounting*. New Jersey: Pearson Education.

Belak, V. (1995) *Menadžersko računovodstvo*. Zagreb, RRiFplus.

Belak, V. (1994) *Profitni centri i interna ekonomija poduzeća*. Zagreb, RRiFplus.

Belak, V. i drugi. (2009). *Računovodstvo proizvodnje. II. dopunjeno izdanje*. Zagreb, RRiFplus.

Belak, V., Brkanić, V. i dr. (2000). *Računovodstvo poduzetnika*. Zagreb: RRiF.

Belak, V. (ur) (2011). *Računovodstvo i menadžment. Zbornik radova, svezak I – znanstveni radovi*. Zagreb: M.A.K. Golden.

Bendeković, J. i drugi (1993). *Planiranje investicijskih projekata*. Zagreb: Ekonomski institut Zagreb.

Bendeković, J. i drugi (2007). *Priprema i ocjena investicijskih projekata*. Zagreb: Foip biblioteka.

Bochenski, J. (1997). *Uvod u filozofsko mišljenje*. Split: Verbium.

Garrison, R. i Noreen, E. (2000). *Managerial Accounting*. New York: McGraw-Hill Higher Education.

Goldratt E. M., Cox, J. (2012). *The Goal. A Process of Ongoing Improvement*. Great Barrington. The North River Press Publishing Corporation.

Hornngren, C. T., Harrison, W. T., Oliver, M. S. (2012). *Financial & Managerial Accounting*. New Jersey: Pearson Education.

Hornngren, C. T., Datar, M. S., Rajan, M. V. (2012). *Cost Accounting*. New Jersey: Pearson Education.

Kaplan, R.S. (2007). *The Demise of Cost and Profit Centers*. Harvard Business School Publishing. Dostupno na: [http://www.bscoll.se/\\_wcm/documents/Strategic%20alignment.pdf](http://www.bscoll.se/_wcm/documents/Strategic%20alignment.pdf) (pristup: 14.3.2014.)

Kaplan, R. S., Norton, D. (2008). *The Execution Premium. Linking Strategy to Operations for Competitive Advantage*. Harvard Business School Publishing Corporation.

Kaplan, R. S., Norton, D. (2006). *How to Implement a New Strategy Without Disrupting Your Organization*. Harward Business Review. Dostupno na: [http://www.theexecutionmaximizer.com/uploads/Attachments/HBR\\_Implementing\\_New\\_Strategy\\_Without\\_Disrupting.pdf](http://www.theexecutionmaximizer.com/uploads/Attachments/HBR_Implementing_New_Strategy_Without_Disrupting.pdf) (pristup: 1.3.2014.).

Kaplan, R. S., Norton, D. (2008). *Integrating Strategy Planning and Operational Execution: Six Stage System*. Harward Business School Publishing. Dostupno na: <http://www.insightfromhbr.org/0608bsr/bsrmayjune08.pdf> (pristup 2.3.2014.).

Kaplan, R. S., Norton, D. (2007). *Using the Balanced Scorecard as a Strategic Management System*. Dostupno na: <https://labcalidad.files.wordpress.com/2013/02/oil.pdf> (pristup: 15.2.2014.).

Karić, M. (2006). *Ekonomika poduzeća*. Osijek: Ekonomski fakultet u Osijeku.

Karić, M. (2008). *Upravljanje troškovima*. Osijek: Ekonomski fakultet u Osijeku.

Kotler, P., Keller, K. (2012). *Upravljanje marketingom*. Upper Saddle River: Prentice Hall.

Osmanagić, B. (1998). *Kontroling – abeceda poslovnog uspjeha*. Zagreb, Školska knjiga.

Petrović, G. (2007). *Logika*, Zagreb: Element.

Swann, P. (2009). *The Economics of Innovation*. Northampton USA: Edward Elgar Publishing Limited.

Šamić, M. (1990). *Kako nastaje naučno djelo. Uvođenje u metodologiju i tehniku naučnoistraživačkog rada – opširni pristup*. Sarajevo: Svjetlost.

Šošić, I. (1998). *Zbirka zadataka iz statistike*. Zagreb: Mikrorad i Ekonomski fakultet Zagreb.

Štahan, M., Baica, N., Bičanić, N. i dr. (2010). *Računovodstvo trgovačkih društava*. Sv. Ivan Zelina: TEB.

**Adela Has, M.A.**

University of Josip Juraj Strossmayer in Osijek  
Faculty of Economics in Osijek  
Trg Lj. Gaja 7, 31000 Osijek  
Phone: 38531224456 Fax: 38531211604  
E-mail address: adela.has@efos.hr

**Marijana Zekić-Sušac, Ph.D.**

University of Josip Juraj Strossmayer in Osijek  
Faculty of Economics in Osijek  
Trg Lj. Gaja 7, 31000 Osijek  
Phone: 38531224456 Fax: 38531211604  
E-mail address: marijana@efos.hr

**CAN COMPANY CREDITWORTHINESS BE PREDICTED? – A  
NEURAL NETWORK APPROACH****MOŽE LI SE PREDVIDJETI KREDITNA SPOSOBNOST TVRTKE S  
POMOĆU NEURONSKIH MREŽA****ABSTRACT**

*The purpose of the paper is to create a prediction model of company creditworthiness by machine learning methodology. Company creditworthiness has been investigated in previous research mostly using standard statistical modelling techniques, such as multiple and logistic regression. Due to their advantages, methods of machine learning have recently shown their success in many problem domains for prediction, classification, and association purposes. In this research, the artificial neural network as one of the machine learning method is used to model creditworthiness of Croatian companies. The input space consisted of 29 variables containing companies' financial coefficients and additional variables such as defense interval (in days), days of accounts receivables, days of accounts payables, the number of employees, and other. Fourty neural network architectures were tested in order to find the model which produces the smallest error and the stability of results. The most successful model yields the average classification rate of 84.57% in a 10-fold subsampling procedure. Besides the model accuracy, the paper also analyses the importance of predictors using sensitivity analysis. The results of suggested model are then compared to some previous research in this area and similar models in other countries. The research could be beneficial to business managers, investors, banks, government institutions, and other organizations that need information about company's creditworthiness as an input for their decision making process.*

**Key words:** artificial neural networks, company creditworthiness, modelling, sensitivity analysis



## SAŽETAK

*Svrha rada je kreirati model za predviđanje boniteta tvrtki s pomoću metodologije strojnog učenja. U literaturi je bonitet tvrtke istraživao prvenstveno s pomoću standardnih statističkih metoda poput višestruke i logističke regresije. Zbog svojih prednosti, metode strojnog učenja pokazale su se u posljednje vrijeme posebno uspješnima u mnogim problemskim područjima u svrhu predviđanja, klasifikacije i asocijacije. U ovom istraživanju, kao jedna od metoda strojnog učenja, koristi se umjetna neuronska mreža za modeliranje boniteta hrvatskih tvrtki. Ulazni prostor sastoji se od 29 varijabli koje uključuju financijske koeficijente tvrtki te dodatne varijable poput obrambenog intervala (u danima), broja dana vezivanja potraživanja, broja dana vezivanja obveza, broja zaposlenih djelatnika i drugih varijabli. Testirano je četrdeset različitih arhitektura neuronskih mreža u cilju pronalaženja modela koji će proizvesti najmanju grešku i stabilnost rezultata. Najuspješniji model daje prosječnu stopu točnosti klasifikacije od 84.57% u proceduri 10-strukog uzorkovanja. Osim točnosti modela, u radu se analizira i značajnost prediktora s pomoću analize osjetljivosti. Rezultati predloženog modela uspoređeni su s rezultatima sličnih modela koji su kreirani za tvrtke u drugim zemljama. Ovo istraživanje može biti od koristi menadžerima tvrtki, ulagačima, bankama, vladinim institucijama i drugim organizacijama kojima je potrebna informacija o bonitetu tvrtke u procesu donošenja odluka.*

**Ključne riječi:** *umjetne neuronske mreže, bonitet tvrtke, modeliranje, analiza osjetljivosti*

### 1. Introduction

Creditworthiness ratio is an important information for each company as an indicator of their current financial condition, and also as a detector of potential problems in business. In addition, creditworthiness provides an overview of company financial health, and it has an important role in the public perception of company which greatly affects the future performance. The calculation of creditworthiness is a complex procedure that involves variety of financial statements and their combined usage to determine the ratio and classify companies into “good” or “bad” category. Company creditworthiness has been investigated mostly using standard statistical modelling techniques, such as multiple and logistic regression. The aim of the paper is to determine if a machine learning method could provide an accurate model of predicting creditworthiness of Croatian companies. For that purpose we have developed an efficient neural network model for predicting company’s creditworthiness that could be also used to extract financial indicators with high influence on company creditworthiness. The paper brings an overview of previous research in the area of modeling creditworthiness, describes the data, methodology and the obtained results, followed by the discussion and conclusion.

### 2. Previous research

According to McMillan dictionary (McMillan, 2015) creditworthiness is the degree to which a person, organization, or country is considered likely to pay back money that they borrow. It is usually expressed as the credit rating. Majority of the existing models in this area are focused on financial failure or insolvency and they mostly rely on statistical methods such as discriminant analysis, multiple regression, and logistic regression (Beaver, 1966; Altman et al., 1977; Andreev, 2007; Dvoracek et al. 2008; Lin et al., 2012; Sarlija et al., 2009.) According to Andreev (in Maharaullee, 2011), there is no unified theoretical justification of both theory and set of indicators for predicting financial vulnerability. „Each empirical result has to be evaluated to its own merit.” (Andreev, 2011). Kumar and Bhattacharya (2002) forecasted corporate credit ratings from financial statement data by comparing neural

networks (ANN) and linear discriminant analysis. Their result showed that the ANN model comprehensively outperformed the LDA model. Lin et al. (2012) described a number of risk-rating models developed for UK small businesses based on accounting approach which uses financial ratios and some features typical to retail credit risk modelling as an enhancement. Data Envelopment Analysis (DEA) is investigated by Li et al. (2014) for measuring corporate efficiency of Chinese companies. They used the DEA measures in a logistic regression (LR) model to predict the probability of company's distress, and showed that an integration of DEA and LR resulted with an improved model. Geng et al. (2015) also analysed Chinese companies, but used data mining methods, such as ANNs, decision trees, and support vector machines showing that the ANN model provides the most accurate prediction.

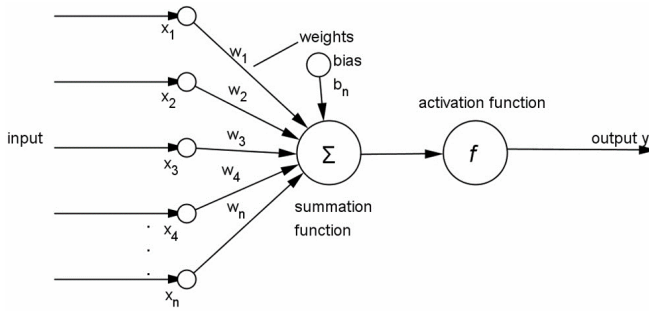
Previous research indicates that neural networks and several other machine learning methods have been introduced recently in modeling financial data, with some promising results over standard statistical methods on some datasets. In this paper, it was a challenge to use neural networks for developing model of creditworthiness on Croatian companies. The modeling procedure is tested on a real dataset, and some benefits and limitations of model are observed.

### **3. Methodology**

Artificial neural network appeared as a method of machine learning in 1958, when the first neural network called the perceptron was introduced by Frank Rosenblatt. The idea behind this method was to immitate biological neural network in the learning process. After the development of multilayer perceptron (MLP) network in 1974, and the backpropagation algoritam (1986), NNs have shown success in solving prediction, classification, and association problems (Masters, 1995). Since then, a number of different NN algorithms has being developed and applied in many domains like medicine, engineering, production, business, forestry, etc. Nowadays NNs have an important role in business predictive analytics and decision making, especially in terms of big data concept.

Neural networks can be described as programs or hardware machines that are able to find relationships among variables on the basis of historical data, in order to produce output for new input data (Zahedi, 1993). Artificial neuron represents a processing unit (variable) that receives weighted input from other variables, transforms the input according to a function, and sends the output to other variables. Typical structure of a multilayer perceptron neural network has three layers. The first layer is the input layer in which the weighted values from the input vector are summed. In the second layer called the hidden layer the activation function is applied in order to produce the output, while the output is represented to the user in the output layer. The network output value is then compared to the actual output value and the error is computed. This process is repeated in a number of iterations until a desired error is reached. Figure 1 presents a simplified MLP network architecture in the case with one hidden neuron and one output neuron.

**Figure 1** Architecture of the MLP neural network - the case with one hidden neuron and one output neuron



Source: Haykin, 1999, modified

Each neuron  $x_i$  from the input layer sends its value to a neuron in the hidden layer, with a different weight value  $w_i$ . The sum of all weighted values from the input layer is received as a value to a hidden neuron  $j$  and this calculation is repeated for each hidden neuron  $j$ . The output  $y$  computed in the hidden layer in neuron  $j$  is computed by (Masters, 1995):

$$y_j^{(h)} = f\left(\sum_{i=1}^n w_{ji}x_i\right), \quad j = 1, 2, \dots, m \quad (1)$$

where  $f$  is the activation function selected by the user, which can be sigmoid (logistic), tangent hyperbolic, exponential, linear, step or other.

In case of more than one neuron in the hidden layer ( $j > 1$ ), the final computed output  $y_c$  in the output layer is computed by applying another transfer function, mostly linear. The computed output  $y_c$  is compared to the actual output  $y_a$  in each output neuron  $i$ , and the local error  $\varepsilon$  is computed. The error is then used to adjust the weights of the input vector according to a learning rule, usually the Delta rule. Output of a neuron is computed according to an activation or transfer function. The most frequently used functions are logistic and tangent-hyperbolic due to the fact that the most variables in reality follow one of these functions that are also used in this paper. MLP can use various algorithms to minimize the objective function (i.e. error), such as gradient descent (backpropagation), conjugate gradient descent, Broyden-Fletcher-Goldfarb-Shanno (BFGS) or Quasi-Newton, Levenberg-Marquardt and others. The Quasi-Newton algorithm is used in this paper. Another important part of NNs methodology is the learning rule which represent a formula for adjusting weights ( $w_{ji}$ ) between neurons. Most frequently used learning rule is the Delta rule and its improved variation Delta-Bar-Delta rule (Masters, 1995):

$$\Delta w_{ji} = \eta \cdot y_{cj} \cdot \varepsilon_i \quad (2)$$

where  $\Delta w_{ji}$  is the weight adjustment,  $\eta$  is the learning parameter that can be dynamically changed during the learning process. Higher learning rate means faster learning. New weights are computed for each input value in the input vector  $X$ , and then applied in the next iteration of neural network learning process. The aim is to find the weight values that produce the minimal network error. This process is called „neural network learning”. NNs have three characteristic phases of work. The first and the longest phase is learning and it is performed in thousands of iterations through the train dataset. The second phase of work is cross-validation. During this phase, the network optimizes parameters (the number of hidden neurons, the number of train iterations) in a cross-validation procedure (iteratively trains and tests until the error does not improve). The best network that produces the minimal error of all tested networks is saved and used in the final validation phase. The learned network is tested here on the hold-out sample and obtained results are used to evaluate the network performance on the new data. For prediction type of problems where output is a continuous

variable, the network performance is evaluated by the mean square error (MSE). For classification type of problems where output is a categorical variable, the classification rate, i.e. the hit rate, is measured according to:

$$\text{Total classification rate} = \frac{\text{number of correctly classified cases}}{\text{total number of cases in sample}} \quad (3)$$

Alternatively, the average classification rate can be used as a performance measure which is obtained by dividing the sum of classification rates of each category by the number of categories in the output layer. One of the limitations of the NN methodology is instability, meaning that the model accuracy is highly dependent of the sampling procedure and accuracy of model changes by adding new cases in the dataset. For that reason, after finding the best NN model by testing various NN architectures, the final test of model stability is performed by a 10-fold cross-validation procedure. This procedure randomly selects 10% of the data for testing, while the remaining 90% of data is used for training and cross-validating phases. The procedure is repeated 10 times, such that in each step a different subsample is used for training and for testing, therefore producing results on 10 different samples. The average of 10 NN results on the validation subsamples was observed and used as the measure of model expected performance on new future data.

#### 4. Data

In this research, data from 68 Croatian companies from software industry were used. The dataset contained 204 cases from the period 2012 until 2014. After ommitting cases with missing values, 175 cases was left for analysis. Input space consisted of 29 input variables describing: 24 financial coefficients computed from financial statements, 5 additional variables describing: Defense interval (in days) No. of days of accounts receivables, No. of days of accounts payables, No. of days of cash cycle, No. of employees. All variables and their descriptive statistics are presented in Table 1.

*Table 1 Descriptive statistics of variables*

Var #	Variable code	Description	Mean	Stdev
1	Coeff1	Long-term debt ratio	1.1	5
2	Coeff2	Debt-to-equity ratio	8.5	62
3	Coeff3	Debt ratio	0.6	1
4	Coeff4	Liability-to-equity ratio	8.5	62
5	Coeff5	Financial stability I	12.5	33
6	Coeff6	Financial stability II	7.4	25
7	Coeff7	Financial strength	3.2	7
8	Coeff8	Financial leverage index	4.0	13
9	Days_defense	Days of defense interval	256.7	669
10	Coeff9	Current ratio	2.5	3
11	Coeff10	Quick ratio	2.9	8
12	Coeff11	Cash ratio	0.7	1
13	Coeff12	Cash flow coverate ratio	19.2	21
14	Days_acc_receivables	Days of accounts receivables	96.5	110
15	Days_acc_payables	Days of accounts payables	83.5	189
16	Days_cash_cycle	Days of the cash cycle	34.0	182
17	Coeff13	Average asset turnover ratio	2.2	1
18	Coeff14	Average long-term asset turnover ratio	44.9	131
19	Coeff15	Productivity	6.2	32

Var #	Variable code	Description	Mean	Stdev
20	Coeff16	ROE	14.0	26
21	Coeff17	ROA	48.7	363
22	No_employees	Number of employees	6.8	9
23	Coeff18	Income per employee	556677.4	1619778
24	Coeff19	Debt to finance ratio	61.6	48
25	Coeff20	Liquidity	3.6	11
26	Coeff21	Short-term liquidity	626.6	4756
27	Coeff22	Credit exposure	211.7	2782
28	Coeff23	Rate of return on assets	18.6	32
29	Coeff24	Total asset productivity	113.1	1468
30	Creditworthiness	Creditworthiness	1=52.95%, 2=47.05%	

Source: Authors

In practice, credit worthiness (CW) is measured by five categories of credit rating (A,B,C,D,E, where A is the best, E is the worst). The categories are calculated on the basis of methodology used by a Croatian data agency. In this paper, the output variable was transformed into 2 categories of credit worthiness such that categories A and B are joined into category 1 – „high CW” companies, while D and E are joined into category 2 – „low CW” companies. For the purpose of finding the best NN model, the dataset was divided into three subsamples; the train sample was used for NN training/learning, the test sample was used for parameter optimization, and the validation (hold-out) sample was used for the final model validation which is represented in Table 2.

**Table 2** Descriptive statistics of variables

Subsample	% of cases	No. of cases	No. of category 1 - high	No. of category 2 - low
Train	61.14	107	54	53
Test	18.86	33	20	13
Validation	20.00	35	21	14
Total	100.00	175	95	80

Source: Authors

## 5. Results

For the purpose of finding the best NN model, 40 neural network architectures were tested in this paper (20 architectures with logistic, and 20 architectures with tangent hyperbolic activation function) by varying hidden units from 1 to 20 and using different learning coefficients. Two most accurate neural network architectures are presented in Table 3.

**Table 3** Summary of best results on validation sample

NN model architecture	Activation function in the hidden layer	Total classification rate on the validation sample	Classification rate of category 1	Classification rate of category 2
MLP 29-1-2	Logistic	100.00	100.00	100.00
MLP 29-7-2	Tangh	90.14	90.67	89.56

Source: Authors

It can be seen from Table 3 that the neural network model with logistic function was more accurate and is therefore selected for further analysis. The total classification rate of the best model obtained on the validation sample was 100%, meaning that the model can accurately classify companies according to their creditworthiness. The classification rates for each category of creditworthiness (category 1 - „high CW” and category 2 – „low CW”) are also 100%. The structure of the NN with highest accuracy is 29-1-2, meaning that the network with 29 input neurons, 1 hidden neurons and 2 output neurons has produced the best result.

The cross-validation procedure of 10-fold random subsampling was used to test the model stability, i.e. if the best NN model generalizes well. The results of the random sampling procedure are given in Table 4.

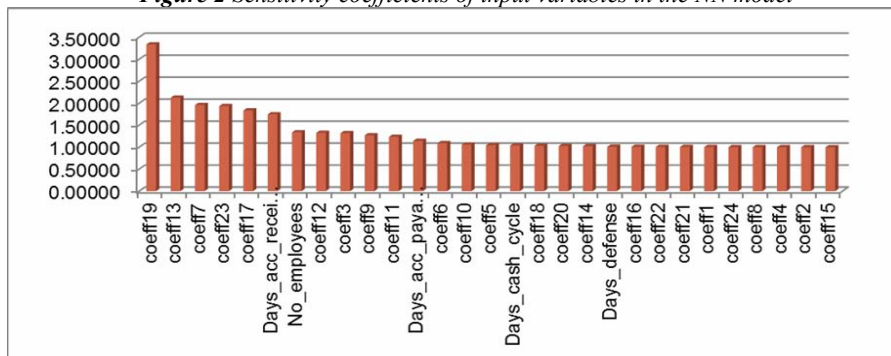
**Table 4** Results of the best NN model in random sampling

Validation sub-sample	Total classification rate	Classification rate of category 1	Classification rate of category 2
1	80.00	90.00	66.67
2	88.57	94.74	81.25
3	91.43	95.00	86.67
4	80.00	95.24	57.14
5	68.57	66.67	71.43
6	80.00	82.35	77.78
7	88.57	90.48	85.71
8	91.43	100.00	81.25
9	82.86	95.24	64.29
10	94.29	94.44	94.12
<b>Average</b>	<b>84.57</b>	<b>90.42</b>	<b>76.63</b>
<b>Stdev</b>	<b>7.76</b>	<b>9.57</b>	<b>11.51</b>

*Source: Authors*

The Table 4 shows that the accuracy of the selected NN model varies when the sample changes. Although the accuracy of the best model presented in Table 3 was 100%, when the model is tested on ten different random samples, the observed average accuracy across all samples is 84.57%. The model classified companies into „high CW” category with the average classification rate of 90.42%, which was more accurate than the average classification rate of „low CW” category (76.63%), meaning that the NN model performs better in recognizing companies with high creditworthiness. The standard deviation of the total classification rate across samples is 7.76%. The higher standard deviation is observed for the „low CW” category (11.51%) than for the „high CW” category (9.57%). This shows that the model is more stable in recognizing companies of high creditworthiness than in recognizing companies of low creditworthiness. Besides analysing the model accuracy, it is valuable to conduct the sensitivity analysis. Sensitivity analysis is important to determine which input variable have the highest influence to output by measuring the change of the output value due to the change of an input variable value. In this paper, the sensitivity analysis is performed on each of 10 validation subsamples, and the average values of sensitivity coefficients of each input variable are shown graphically in Figure 2.

**Figure 2** Sensitivity coefficients of input variables in the NN model



Source: Authors

As is evident from Figure 2, the most significant influence on creditworthiness has the Debt-to-finance ratio (coeff19), followed by the Average asset turnover ratio (coeff13), Financial strength (coeff7), Rate of return on assets (coeff23), ROA (coeff17), and Days of accounts receivables. The smallest influence on credit worthiness has the Productivity coefficient. In previous literature, Andreev et al. (2005) showed that liquidity and profitability ratios are among the most significant predictors of financial distress in Spanish companies. The results obtained in this paper indicate more diversity - one of the solvency ratios is important (financial strength), one of the profitability ratios (ROA), and two of the activity ratios (Days of accounts receivables, Average asset turnover ratio), and two other ratios (Debt-to-finance, Rate of return on assets).

## 6. Discussion and Conclusion

The aim of the paper was to find an efficient neural network model for predicting company creditworthiness based on financial ratios, size, number of employees and additional predictors using a Croatian dataset. Besides standard statistical methods, machine learning methods have been recently used for modeling creditworthiness and financial distress in several other countries. In this paper, a number of neural network architectures was tested, and the best model produced the average classification rate across ten samples of 84.57%. In the domain of predicting creditworthiness and financial distress, standard statistical methods such as discriminant analysis, regression, and other methods mostly showed the accuracy around 70-80%. The obtained results show that the neural network method can be successfully used for modeling creditworthiness. The extraction of important predictors on Croatian dataset somewhat differ from the those in other countries reported in literature. While liquidity and profitability ratios have been found as the most important predictors of company creditworthiness in other countries, our results indicate more diversity. Namely, one of the solvency ratios (Financial strength), two activity ratios (Days acc.receivables, Average asset turnover ratio), and other ratios such as Debt-to-finance, and Rate of return on assets are also found important.

It can be concluded that the suggested neural network model for predicting company creditworthiness is successful and has a potential for practical usage. Further research should move towards more detailed data preprocessing by using variable reduction methods, and it is also recommended to compare more machine learning methods in competitive and collaborative way. This work could be useful to researchers and practitioners in the field of economics, investors, banks, government institutions, and business managers who could use this methodology for better decision making.

## REFERENCES

- Altman, E.I. Haldeman, R.G. Narayanan, P. (1977): ZETA Analysis, *Journal of Banking and Finance*, 1, pp. 29-54.
- Andreev, Y.A. (2006): Predicting financial distress: A multinomial logistic approach to Spanish firms. Mimeo, Autonomous University of Barcelona
- Beaver, W.H. (1966): Financial Ratios as Predictors of Failure, *Journal of Accounting Research*, Vol. 4, Issue Empirical Research in Accounting: Selected Studies, Pages 71-111.
- Dvoracek, J., Sousedikova, R., Domaracka, L. (2008): Industrial Enterprises Bankruptcy Forecasting, *Metalurgija*, Vol. 47 (1), pp.33-36.
- Geng, R., Bose, I., Chen, X. (2015): Prediction of financial distress: An empirical study of listed Chinese companies using data mining, *European Journal of Operational Research*, Vol. 241 (1), pp. 236-247
- Haykin, S. (1999): *Neural Networks: A Comprehensive Foundation*, Prentice Hall International, Inc., New Jersey, USA
- Kumar, K., Bhattacharya S. (2002): Artificial neural network vs linear discriminant analysis in credit ratings forecast: A comparative study of prediction performances, *Review of Accounting and Finance*, Vol. 5 Iss: 3, pp.216 – 227
- Li, Z., Crook, J., Andreeva, G., Chinese companies distress prediction: an application of data envelopment analysis, *Journal of the Operational Research Society*, 65, pp. 466–479, doi:10.1057/jors.2013.67
- Lin, S-M. Ansell, J. Andreev, G. (2012): Predicting default of a small business using different definitions of financial distress, *Journal of the Operational Research Society* 63, pp. 539-548
- Maharaullee, M., J. (2011): Financial Distress Prediction: A Multinomial Logistic Approach To Small Companies, Working paper series WP054-11, Centre for Computational Finance and Economic Agents, University of Essex, <http://www.bracil.net/ccfea/WorkingPapers/2011/CCFEA-WP054-11.pdf> [accessed March 28, 2016].
- McMillan Dictionary, Creditworthiness, <http://www.macmillandictionary.com/dictionary/british/creditworthiness>, [accessed March 28, 2016]
- Masters, T. (1995): *Advanced Algorithms for Neural Networks, A C++ Sourcebook*, John Wiley & Sons, Inc., New York, USA
- Sarlija, N., Bencic, M., Zekic-Susac, M., (2009): Comparison procedure of predicting the time to default in behavioural scoring, *Expert Systems with Applications*, Vol. 36, pp. 8778–8788.
- Zahedi, F. (1993): *Intelligent Systems for Business, Expert Systems With Neural Networks*, Wodsworth Publishing Inc.



**Lara Jelenc, PhD.**

Faculty of Economics Rijeka  
Ivana Filipovića 4, 51000 Rijeka  
Phone/fax: 00385(51) 355-131  
E-mail address: ljelenc@efri.hr

**John Pisapia, PhD.**

Florida Atlantic University  
777 Glades Road  
Boca Raton, FL 33431  
Phone: 561.297.3556  
jpisapia@fau.edu

**Valentina Ivančić, PhD.**

Faculty of Economics Rijeka  
Ivana Filipovića 4, 51000 Rijeka  
Phone: 00385/ 918832941  
E-mail address: vivancic@efri.hr

**STRATEGIC THINKING CAPABILITY AND ENTREPRENEURIAL  
ATTITUDE ORIENTATION: LINKS AND RELATIONS**

**SPOSOBNOST STRATEŠKOG PROMIŠLJANJA I PODUZETNIČKA  
ORIJENTACIJA TEMELJENA NA STAVU: POVEZNICE I ODNOSI**

**ABSTRACT**

*This paper examines the links and type of relations between strategic thinking capability and entrepreneurial attitude orientation. Entrepreneurial attitude orientation consists of innovation, personal control, self-esteem and achievement. Strategic thinking capability refers to the ability to use: reframing, reflecting, and system thinking. We start from the idea that strategic thinking capability largely influences entrepreneurial attitude orientation. The aim of the study is to show that by improving the strategic thinking process it is possible to improve the entrepreneurial attitude orientation and therefore improve the level of entrepreneurial activity in general. Assuming that strategic thinking capability depends not only on innate individual characteristics, but also on acquired knowledge and competencies, it seems that entrepreneurial orientation could be improved through an appropriate selection of education and training programs. The study sample comprised five important industries in the Republic of Croatia (n= 286). The results demonstrate that strategic thinking capability explains 14% of the variances in entrepreneurial attitude orientation. The three strategic thinking capability dimensions were significantly related to attitudes regarding achievement and change and personal control. However, one dimension, system thinking, seems to explain the largest part of the variance. We concluded that strategic thinking capability and entrepreneurial attitude orientation are not just linked but rather interrelated in a variety of ways. This finding is important for the entrepreneurial development since attitudes appear to be responsive to education and training policies. Hence, an emphasis on improving strategic thinking capability could lead to stronger entrepreneurial attitude orientation.*

**Key words:** *strategic thinking, entrepreneurship, entrepreneurial attitude orientation, strategic thinking competences, Croatia*

## SAŽETAK

*Rad istražuje vezu između sposobnosti strateškog promišljanja i poduzetničke orijentacije temeljene na stavu. Poduzetnička orijentacija temeljena na stavu mjeri se preko konstrukata inovacijskog potencijala, razine osobne kontrole, samopoštovanja i postignuća pojedinca. Sposobnost strateškog promišljanja odnosi se na sposobnost promjene načina sagledavanja stvari te dubljeg i sustavnog promišljanja. Autori polaze od ideje da strateško promišljanje utječe na poduzetničku orijentaciju pojedinog poduzetnika. Cilj rada je proučiti i dokazati da unaprijeđenjem procesa strateškog promišljanja je moguće utjecati na poboljšanje poduzetničke orijentacije i poduzetničke aktivnosti općenito. Ako se pretpostavi da strateško promišljanje ne ovisi samo o urođenim karakteristikama pojedinca, već i o stečenim znanjima i kompetencijama, unaprijeđenjem politike obrazovanja i obučavanja menadžera moguće je posredno unaprijediti i poduzetničku orijentaciju pojedinca. Istraživanje uključuje 286 poduzeća iz pet različitih gospodarskih djelatnosti u Republici Hrvatskoj. Rezultati istraživanja pokazuju da sposobnost strateškog promišljanja objašnjava 14% varijance poduzetničke orijentacije. Između različitih konstrukata strateškog promišljanja, varijabla koja mjeri razinu sustavnog promišljanja objašnjava najveći dio varijance varijable "poduzetnička orijentacija" što upućuje na činjenicu da su sposobnost strateškog promišljanja i poduzetnička orijentacija međusobno povezane na nekoliko načina. Rezultati istraživanja upućuju na važnost odabira adekvatnih programa obrazovanja i osposobljavanja čime se može unaprijediti poduzetničku orijentaciju pojedinca.*

**Ključne riječi:** *strateško promišljanje, poduzetništvo, poduzetnička orijentacija, sposobnost strateškog promišljanja, Republika Hrvatska.*

## 1. Introduction

The importance of entrepreneurship is widespread in the business press and the academic literature of entrepreneurship and strategic management. It's central for economic and societal advancement through innovative responses to unmet needs. As a field, entrepreneurship is mostly associated with individuals and organizations who have distinctive characteristics over non-entrepreneurs and non-entrepreneurial organizations. While much of the academic literature tends to favor study of entrepreneurial organization through the contributions of economics, strategy, and professional perspectives (Rauch et al., 2009), "entrepreneurship is fundamentally personal" (Baum et al., 2007; Rauch & Frese (2007) suggesting a return to the contributions of psychology.

Whereas, the macroeconomic domain talks about entrepreneurial firms in terms of firms having created profit, increase volume of products, economic growth, and increased employability, the psychological domain focuses on entrepreneurs as individuals. As Schumpeter (1934) noted the essence of entrepreneurship is creative destruction which is based on the innovative and creative attitude characteristic of entrepreneur who is causing disruption by creating and exploiting opportunities between what is available and what is desired at the market place. Definitions of entrepreneurship that followed are focused on the alertness to spot the opportunities and readiness to take actions to exploit those opportunities (Kirzner, 1997; Shane & Venkataraman, 2000).

The psychological point of view began examining the myth that only people who are born as entrepreneurs can be entrepreneurs through great man theories. The stories of the great leaders described in thick biographies became role model of successful entrepreneurs. Demographic characteristics later on proved not to be a serious distinction factor between entrepreneurs and non-

entrepreneurs (Gartner, 1988). As these early attempts failed to produce a list of predictable antecedents, the literature shifted to identifying attitudes, predispositions, behaviors, and skills that entrepreneurs use to spot opportunities and exploit them irrespective of existing resources and contexts (Pisapia & Feit, 2015).

## **2. Aim of the Study**

We use the psychological view as our departure point into the attitudes and skills of entrepreneurs as they work through opportunity discovery, recognition, and exploitation challenges. Specifically, we examine the linkage between strategic thinking capability and entrepreneurial attitude orientation.

We proceed as follows: first we examine the related literature concerning entrepreneurial attitude and strategic thinking capability. Then we present our research map which illustrates the relationships we expect to find based on our literature review. Finally, we present the findings of our study of linkages between entrepreneurial attitude orientation and strategic thinking capability.

## **3. Theoretical Considerations**

The Entrepreneurial Orientation (EO) scale is the most widely accepted instrument for capturing a firm's inclination toward entrepreneurship (Covin & Wales 2011; Rauch et al. 2009; Wiklund 1999). Attempts to apply this scale at the individual level have met stiff resistance in the academic world (Slevin & Terjesen, 2011). This resistance led to suggestions to refocus research attention on specific entrepreneurial antecedents such as behaviors (Bird, Schjoedt, & Baum, 2012; De Jong, Parker, Wennekers, & Wu, 2011), attitudes (Robinson, Stimpson, Huefner, & Hunt, 1991), and cognition (Huefner, Hunt, & Robinson, 1996).

Much of this work utilizes entrepreneurial intentions (EI) models built on psychological theory to examine the development of entrepreneurial behavior (e.g. Bird 1988; Bird and Jelinek 1988; Boyd and Vozikis 1994; De Clercq, Honig, and Martin 2013; Krueger and Carsrud 1993; Krueger, Reilly, and Carsrud 2000). Unfortunately, much of the work is less than rigorous (McNally, Martin, Honig, Bergmann, & Piperopoulos (2016). Methodological issues such as misuse of dominate scales, and lack of understanding of formative and reflective measures (p.2.) have led to mixed results. There is however, a strong link found between entrepreneurial intentions and personal control, self-esteem (Schlaegel & Koenig 2014).

Attitudes, in particular, are one of those antecedents studied because it is believed that they are malleable (Olson & Zanna, 1993; Piperopoulos & Dimov, 2015), and they predict entrepreneurial behavior (Ajzen, 1991; Gollwitzer, 1993; Thompson, 2009). One of the most promising scales to predict individual entrepreneurship is Robinson, Stimpson, Heufner, and Hunt's (1991) entrepreneurial attitude orientation (EAO) scale. Their scale is based on attitude theory which defines attitude as "the predisposition to respond in a generally favorable or unfavorable manner with respect to the object of the attitude". The assumption is that the mindset of entrepreneurs consists of a set of attitudes that help the entrepreneur see and react to the world differently than most other people.

The EAO measures entrepreneurial attitudes that are thought to influence behavior with regard to business activities: innovation, personal control, self-esteem and achievement. Innovation is the effort of creating unique ideas that are different from the current state of practices and technologies. It implies both conceptualization and implementation of new ways of performing in practice. Personal control assumes the perceived control and influence over the destiny of the business.

Personal control provides individual confidence, commitment, and determination and individual is able to pursue his or her entrepreneurial journey (Choe, Loo, Lau, 2013). Self-esteem reflects ones perceived competency, self-confidence, and good feelings about oneself (Choe, Loo, Lau, 2013). Self-esteem provides motivation to commit the necessary effort (Douglas, Shepherd, 2000) and not fail. Achievement is a desire to achieve concrete results, receive feedback, and experience a sense of accomplishment.

In the model each entrepreneurial attitude is formed from a tripartite model consisting of: affect, cognition, and behavior. The affective component is associated with feelings about an object which involves values and emotions. The affective feelings will result in an individual evaluating his/her experience as positive or negative behavior. The cognitive component reflects the non-critical beliefs and thoughts of a person toward an attitude. The behavioral component refers to habitual patterns derived from past behaviors as well as inclination and predisposition to act in a certain direction.

The link between EAO and performance was tested by Choe, Loo and Lau (2013). They reported that all four entrepreneurial attitudes were positively related to firm performance. Innovation generated the he largest impact on performance (R square =0.219), followed by self-esteem (R square =0.168), personal control (R square = 0.153), and achievement (R square = 0.113). They concluded ability to get to market first with new products was aided by confidence and empowerment of company managers.

The unexamined role entrepreneurial strategic thinking capability in the extant literature is perplexing given, the fact that the lack of the strategic thinking capability is recognized as the major detractor of economic performance (Bonn, 2001; Zabriskie & Huellmantel, 1991). Shane & Venkataraman's (2000, p.218) notion that entrepreneurship involved the nexus of three phenomena: the presence of an opportunity, the presence of enterprising individuals who can "see it" and who are capable enough to respond to it irrespective of the existing resources.

Strategic thinking places a premium on synthesis and integration and requires the ability to deal with large chunks of information, recognize patterns and visual images, and the ability to pull pieces together into a big picture so one can anticipate and adapt to changes (Pisapia, Jelenc & Mick, 2016). A contemporary conclusion about strategic thinking is that strategic thinking skills are learnable and respond to education and training (Horwath, 2014; Pisapia, 2013; Sloan, 2013).

Pisapia (2009) formulated the strategic thinking skills that comprise strategic thinking capability as systems thinking, reframing and reflecting skills. Systems thinking refer to the entrepreneur's ability to see systems holistically, by understanding the properties, forces, patterns and interrelationships that shape the behavior of the system, which hence provides options for action. Reflecting refers to the entrepreneur's ability to weave logical and rational thinking, through the use of perceptions, experience and information, to make judgments on what has happened, and the creation of intuitive principles that guide future actions. Reframing refers to the entrepreneur's ability to switch attention across multiple perspectives, frames, mental models, and paradigms to generate new insights and options for actions.

This paper test the relationship of these two theoretical frames: attitudes and strategic thinking capability in entrepreneurial work.

#### **4. Research methodology and findings**

The study used a non-experimental quantitative design. The empirical analysis was performed in companies in five strategically important industries in the Republic of Croatia (manufacture of basic

pharmaceutical products and pharmaceutical preparations = 7 % of the sample, manufacture of computer, electronic and optical products= 29%, manufacture of fabricated metal products =17,8%, manufacture of electronic equipment 13,6 %, and manufacture of machinery and equipment = 32,6% of the sample).

The total population of companies from five strategic industries was 3403. Due to the inactivity or lack of any ways of communicating with the company, population reached the number of 1559 companies which was contacted via phone and e-mail. The final number of responses reached 286 companies, with 18,34% of respond rate. The profile of a typical respondent is a male, 30-40 years of age, with bachelor degree, have 1-5 years of managerial experience, never lived abroad, have less than 10 employees and perform within the industry average. The sample consisted of small and medium sized companies.

The strategic thinking capability of the entrepreneur relates to the extent to which a person can discriminate (differentiate/integrate) among a wide variety of stimuli using different schemata, is the predictor variable. The Strategic Thinking Questionnaire (STQ) was used to measure this variable. The STQ is a 25-question self-report instrument that measures the respondent's use of three cognitive abilities, reframing, reflecting, and systems thinking. Respondents that score well are considered to have the capability to be strategic thinkers and to have a strong command of the three thinking skills. According to Pisapia, (2009), the STQ was generated using an iterative process to find latent factors, and means and standard deviations were revised throughout the process. A confirmatory factor analysis conducted in 2011 by Pisapia, Morris, Cavanagh, and Ellington resulted in a three factor solution, as well as sub scale alphas  $> .70$  which will be considered as reliable. This study of the STQ also produced a "Comparative Fit Index (CFI)  $> .90$ , Root Mean Square Error of Approximation (RMSEA)  $< .10$ , and Standardized Root Mean Squared Residual (SRMR)  $< .08$  which demonstrated a good fit to the data" (p. 11). In our study, we followed the recommended validation procedures for inconsistency test in which we excluded 21 companies. The results of internal reliability for construct were the following: reframe ( $\alpha=0,695$ ), reflect ( $\alpha= 0,783$ ), system thinking ( $\alpha= 0,839$ ).

Entrepreneurial attitudes served as our dependent variable. The EAO scale (Robinson, et al. 1991) was used to collect data on attitudes of entrepreneurs in our sample. Their Entrepreneurial Attitude Orientation (EAO) scale is comprised of 21 items arrayed along a Likert type scale and yields four subscales related to attitudes associated with entrepreneurship: (a) innovation or creativity in business activities, (b) achievement- or a desire to achieve concrete results in business, (c) personal control or a desire to have personal control over your business activities, and (d) self-esteem or a strong sense of self-worth. Their tests of the EAO indicate that reliabilities are within acceptable standards, and the scale could differentiate between entrepreneurs and non-entrepreneurs on each of the four scales. The scale has been validated and found to catch the difference between entrepreneurs and non-entrepreneurs. Qing Miao (2012) has performed reliability and validity analysis on original scale in the context of China. In our study, entrepreneurial attitude orientation was measured with 21 item scale developed by Robinson et al. (1991). The results were aggregated by explanatory factor analysis using principal component analysis, rotated Oblimin with Kaiser Normalization, reaching saturation point of 43%. The Factor analysis loaded three factors; personal control ( $\alpha= 0,772$ ), self-esteem ( $\alpha=0,525$ ) and combination of achievement and innovation ( $\alpha=0,710$ ).

Table 1 presents the result of relating independent and dependent variables using simple regression analysis.

**Table 1** The relationship of strategic thinking capability and entrepreneurial attitudes using regression analysis

Independent Variable	Dependent Variables			
	Personal control	Self-esteem	Achievement and change	EAO
<b>Reframing</b>				
β	0.275	0.126	0.300	0.334
Adjusted R <sup>2</sup>	<b>0.072</b>	<b>0.012</b>	<b>0.087</b>	<b>0.108</b>
F	F(1,263) = 21.486**	F(1,263) = 4.275*	F(1,263) = 26.073**	F(1,263) = 32.958**
<b>Reflecting</b>				
β	0.254	0.180	0.213	0.097
Adjusted R <sup>2</sup>	<b>0.061</b>	<b>0.029</b>	<b>0.042</b>	<b>0.084</b>
F	F(1,263)=18.210**	F(1,263) = 8.801*	F(1,263) = 12.511**	F(1,263) = 25.357**
<b>Systems thinking</b>				
β	0.316	0.069	0.385	0.378
Adjusted R <sup>2</sup>	<b>0.096</b>	<b>0.001</b>	<b>0.145</b>	<b>0.140</b>
F	F(1,263) = 29.092**	F(1,263) = 1.274	F(1,263) = 45.688**	F(1,263) =43.821**
<b>Strategic thinking Capability</b>				
β	0.318	0.134	0.343	0.380
Adjusted R <sup>2</sup>	<b>0.098</b>	<b>0.014</b>	<b>0.114</b>	<b>0.141</b>
F	F(1,263) = 29.650**	F(1,263) = 4.832*	F(1,263) = 34.980**	F(1,263) = 44.259**

\*  $p < .05$ , \*\*  $p < .01$  Source: authors

As seen on the table, there are strong linkages among strategic thinking capability and entrepreneurial attitudes. Reframing is significantly (.01) related to personal control, achievement and change, and innovation and creativity. Reflection is significantly related (.01) to innovation and creativity, personal control, and achievement and change. System thinking is significantly (.01) related to innovation and creativity, achievement and change, and personal control. Overall, total strategic thinking capability explains 14% of the variance in innovation and creativity, 11% of the variance in achievement and change, and 10 % of the variance in personal control. Thus, confirming Pisapia's (2009) strategic thinking theory which states that the use of all three thinking skills in combination produce stronger affects than when used singularly.

Also evident from the results is that strategic thinking capability has less of positive relationship with self-esteem. Self-esteem has lower and less powerful connections with reflecting and reframing and no statistically significance with system thinking indicating that self-esteem relates more to dimensions that are not present in the strategic thinking capability dimensions.

## 5. Policy implications

This results are in line of Hayek (1945) approach to entrepreneurship; entrepreneur need two types of knowledge: technological and entrepreneurial one. The first one corresponds to the managerial competencies like system thinking, social awareness, knowing how market functions. The latter one corresponds to the entrepreneurial competency of innovation and knowing what is missing, needed and desired on the market, developing sense of alertness and opportunity recognition.

With these strong results we conclude that in developing the ecosystem for entrepreneurial action, policy and resources in the form of education and training would be a positive step to take. Training

and education, more formal types of activities focused in system thinking will result with correspondingly positive results in personal control and achievement and change. Self-esteem, on the other hand, is more psychological construct that could be developed by coaching or mentoring type of activities.

In conclusion, strategic thinking capability is related to the entrepreneurial attitude orientation. The strongest common aspects are system thinking, and it relates to personal control and achievement and change. Self-esteem is the construct that can be at least explained by strategic thinking. Strategic thinking competence and entrepreneurial activity are evidently connected and due to the multidimensionality of both concepts it is still needed to see the specific mechanism behind the relation.

**Acknowledgment** to students: Mihaela Ivurin, Ana Frol, Marko Kartelo, Ivona Živanović, Jasmina Dizdarević. This work has been fully supported by the University of Rijeka under the project number 13.02.1.3.07 and 13.02.2.2.12.

## REFERENCES

- Ajzen, I. (1991): *Theory of planned behavior*, Organizational Behavior and Human Decision Processes, Vol. 50, pp.179-211.
- Baum, J. R., Frese, M., Baron R. A. (eds.) (2007): *The Psychology of Entrepreneurship*, New Jersey: Lawrence Erlbaum Publishers. Mahwah.
- Bird, B. (1988): *Implementing Entrepreneurial Ideas: The Case for Intention*, Academy of Management Review, Vol. 13, n. 3, pp. 442–453.
- Bird, B., Jelinek M. (1988): *The Operation of Entrepreneurial Intentions*, Entrepreneurship Theory and Practice, Vol. 13, n. 2, pp. 21–29.
- Bird, B., Schjoedt, L., Baum, J.R. (2012): *Editor's Introduction. Entrepreneurs' Behavior: Elucidation and Measurement*, Entrepreneurship Theory and Practice, Vol. 36, pp. 889–913.
- Boyd, N.G., Vozikis G.S. (1994): *The Influence of Self-efficacy on the Development of Entrepreneurial Intentions and Actions*, Entrepreneurship Theory and Practice, Vol. 18, pp. 63–69.
- Choe, K.L., Loo, S.C., Lau, T.C. (2013): *Exploratory Study on the Relationship between Entrepreneurial Attitude and Firm's Performance*, Asian Social Science, Vol. 9, n. 4.
- Covin, J.G., Wales, W.J. (2012): *The Measurement of Entrepreneurial Orientation*, Entrepreneurship: Theory and Practice, vol. 36, pp. 677–702.
- Delaney, J.T., Huselid, M.A. (1996): *The impact of human resource management practices on perceptions of organizational performance*, Academy of Management Journal, vol. 39, n. 4, pp. 949-969.
- De Clercq, D.B., Honig & Martin B. (2013): *The Roles of learning Orientation and Passion for Work in the Formation of Entrepreneurial Intention*. International Small

Business Journal, Vol. 31, pp. 652–676.

De Jong, J., Parker, S., Wennekers S., Wu, C. (2011): *Corporate Entrepreneurship at the individual Level: Measurement and Determinants*, (Working Paper). Scientific Analysis of Entrepreneurship and SMEs. Erasmus University & EIM Business and Policy Research.

Dorsa, P.R. (2007): *Orientation of attitudes found in business people: a review of entrepreneurial attitudes found in entrepreneurs and nonentrepreneurs*, PhD thesis, Pepperdine University.

Douglas, E.I., Shepherd, D.A. (2000): **Entrepreneurship as a utility maximizing response**, Journal of Business Venturing, Vol. 15, n. 3, pp. 231-251.

Gartner, W.B. (1988): *Who is an entrepreneur? is the wrong question*, American Journal of Small Business, Vol. 12, pp. 11-32.

Gollwitzer, P. (1993): *Goal Achievement: The Role of Intentions*, European Review of Social Psychology, vol. 4, pp. 141–185.

Hanford, P. (1995): **Developing director and executive competencies in strategic thinking**, in B. Garrat (Ed.) Developing strategic thought. Rediscovering the art of direction giving: McGraw-Hill Book Company, London.

Horwath, R. (2009): **Deep Dive**, Greenleaf Book Group Press, Texas.

Huefner, J., Hunt, H., Robinson, P. (1996): *A comparison of four scales predicting entrepreneurship*, Academy of Entrepreneurship Journal, Vol. 1, pp. 56–80.

Jamrog, J. et al. (2006): *Leading into the Future: A Global Study of Leadership 2005 2015*, American Management Association.

Kirzner, I.M. (1997): *Entrepreneurial discovery and the competitive market process: An Austrian approach*, Journal of Economic Literature, Vol.35, n.1, pp. 60-85.

Krueger, N.F., Reilly, M.D., Carsrud, A.I. (2000): **Competing Models of Entrepreneurial Intentions**, Journal of Business Venturing, Vol. 15, n. 5–6, pp. 411–432.

Krueger, N., Carsrud, A.I. (1993): *Entrepreneurial Intentions: Applying the Theory of Planned Behaviour*, Entrepreneurship and Regional Development, Vol. 5, pp. 315–330.

McNally, J., Martin, B., Honig, B., Bergmann, H., Piperopoulos, P. (2016): **Toward rigor and parsimony: a primary validation of Kolvereid's (1996) entrepreneurial attitudes scales**, Entrepreneurship & Regional Development.

Hayek, F. (1945): The use of knowledge in society, American Economic Review, Vol. 35, pp. 519-530.

McCline, R., Bhat, S., Baj, P., (2000): *Opportunity recognition: An exploratory investigation of a component of the entrepreneurial process in the context of the health care industry*, Entrepreneurship: Theory and Practice, Vol. 25, n.2, pp. 81-94.



- Miao, Q. (2012): *Revisiting the reliability and validity of the entrepreneurial attitude orientation scale in China*, Psychological Reports: Human Resources & Marketing, Vol. 111,n.2, pp. 503-508.
- Olson, J.M., Zanna, M.P. (1993): *Attitudes and Attitude Change*, Annual Review of Psychology, Vol. 44, pp. 117–154.
- Piperopoulos, P., Dimov, D. (2015): *Burst Bubbles or Build Steam? Entrepreneurship Education, Entrepreneurial Self-Efficacy, and Entrepreneurial Intentions*, Journal of Small Business Management, Vol. 53, n. 4, pp. 970–985.
- Pisapia, J., Feit, K. (2015): **Entrepreneurial Leadership at a Crossroads**, 60th Annual meeting of the International Council for Small Business. Dubai, UAE.
- Pisapia, J., Jelenc, L., Mick, A. (2016): *The Foundations of Strategic Thinking: Effectual, Strategic, and Causal Reasoning*, in Raguž, I., Podrug, N., & Jelenc, L. (Eds.) *Neostrategic Management*. pp. 45-55. Heidelberg, de: Springer International Publishing.
- Rauch, A., Frese, M. (2007): *Let's put the person back into entrepreneurship research: A meta-analysis on the relationship between business owners' personality traits, business creation, and success*, European Journal of Work and Organizational Psychology, Vol. 16 no. 4, pp. 353-385.
- Rauch, A., Wiklund, J., Lumpkin, G., Frese, M. (2009): *Entrepreneurial orientation and business performance: An assessment of past research and suggestions for the future*, *Entrepreneurship: Theory and Practice*, Vol. 33, no. 3, pp. 761-787.
- Robinson, P., Stimpson, D., Huefner, J. Hunt, H. (1991): *An attitude approach to the prediction of entrepreneurship*, *Entrepreneurship: Theory and Practice*, Vol. 15 no. 4, pp. 13–30.
- Schere, J. (1982): *Tolerance of ambiguity as a discriminating variable between entrepreneurs and managers*, *Proceedings of the Academy of Management*, Vol. 42, pp. 404 - 408.
- Schlaegel, C., Koenig, M. (2014): *Determinants of Entrepreneurial Intent: A Meta Analytic Test and Integration of Competing Model*, *Entrepreneurship Theory & Practice*, Vol. 38, n.2, pp. 291–332.
- Schumpeter, J. (1934): **The theory of economic development**, Boston: Harvard University
- Shane, S., Venkataraman, S. (2000): **The promise of entrepreneurship as a field of research**, *The Academy of Management Review*, Vol. 25, no. 1, pp. 217-228.
- Thompson, E.R. (2009): *Individual Entrepreneurial Intent: Construct Clarification and Development of an Internationally Reliable Metric*, *Entrepreneurship Theory & Practice*, Vol. 33, pp. 669–694.
- Wiklund, J. (1999): *The sustainability of the entrepreneurial orientation-performance relationship*, *Entrepreneurship: Theory and Practice*, Vol. 24, no. 1, pp. 37-51.

**Dragica Karajić, MSc.**

Ministry of Entrepreneurship and Crafts  
Zagreb, Croatia  
Phone: +385 1 610 68 12  
Fax: +385 1 610 91 14  
E-mail: dragica.karajic@minpo.hr

**Tomislav Lneniček, MSc.**

New Opportunities Ltd., Lipik, Croatia  
Phone: +385 34 474 026  
Fax: +385 34 474 106  
E-mail: tomislav@novemogućnosti.com

**Višnja Del Vecchio, MSc.**

Ministry of Entrepreneurship and Crafts  
Zagreb, Croatia  
Phone: +385 1 610 97 23  
vdelvecchio@minpo.hr  
Ex senior adviser for impact assessment

**HOW THE ENTREPRENEURIAL INNOVATIVE POLICY MEASURES ARE REFLECTED ON THE COMPETITIVENESS OF ENTERPRISES**

**ODRAZ PODUZETNIČKO INOVACIJSKIH POLITIKA NA KONKURENTNOST PODUZEĆA**

**ABSTRACT**

*The paper analyses the appropriateness of national policies measures aimed at strengthening the competitiveness of innovative enterprises in twelve years' time period i.e. 2000-2005 and 2008-2013.*

*The authors examine the impact of the current national model of incentives in the context of entrepreneurial innovation policies that would, if targeted toward commercialization of innovations and raising the technological level of the company, produce a mirror image to show the direction to the industry of the 21<sup>st</sup> century, or more appropriately, in the context of Croatia, new industrialization process.*

*The focus should be successful industry and successful competitive companies that will create new value, export their products to the world market, create profits and revenue budget. Croatian model of strengthening the competitiveness of enterprises should demonstrate its effect in order to reflect the industry of the 21<sup>st</sup> century. These are knowledge industry and knowledge-based entrepreneurship that will produce innovative products competitive on the world market and create new jobs. Croatia has an entrepreneurial and creative potential of their human capital and this should be the basis for new industrial development.*

*The paper further analyses the needs of innovative companies in terms of entrepreneurs and business consultants who advise small and medium enterprises, while their innovative development*

*potential depends on the environment, technological development of the country, macro-economic indicators, fiscal policy, demographics, a clear vision of national, regional and local authorities, development of the educational system, personal perception of entrepreneur and its ability to absorb new knowledge and skills, in order to make them able to meet the challenges of innovative entrepreneurship.*

**Key words:** *Competitiveness, entrepreneurial innovative policies, small and medium enterprises, innovative entrepreneurship, new industrial development.*

## SAŽETAK

*U radu se analizira primjerenost mjera nacionalnih politika usmjerenih ka jačanju konkurentnosti inovacijskih poduzeća u dvanaest godišnjem vremenskom slijedu, od 2000.-2005. i od 2008.-2013.godine.*

*Autori propituju učinak postojećeg nacionalnog modela poticaja u okviru poduzetničko inovacijskih politika koje bi, ako su ciljano usmjerene ka komercijalizaciji inovacija i dizanju tehnološke razine poduzeća, trebale odražavati i pokazivati smjer ka industriji 21. stoljeća, primjerenije re-industrijalizaciji, u kontekstu Hrvatske.*

*U fokusu trebaju biti uspješna industrija i uspješna konkurentna poduzeća koja će stvarati novu vrijednost, izvoziti svoje proizvode na svjetsko tržište, stvarati dobit i prihod proračunu. Hrvatski model jačanja konkurentnosti poduzeća mora pokazati učinak tako da reflektira industriju 21. stoljeća. To je industrija znanja i poduzetništvo temeljeno na znanju koje će proizvoditi inovativne proizvode konkurentne na svjetskom tržištu i otvarati nova radna mjesta. Hrvatska raspolaže poduzetničkim i kreativnim potencijalom svoga ljudskog kapitala i to treba biti temelj za novi industrijski razvoj.*

*U radu se nadalje analiziraju potrebe inovativnih poduzeća s aspekta poduzetnika i konzultanta koji poslovno savjetuju poduzeća iz maloga gospodarstva (SMEs) kako bi poduzetnici bili u mogućnosti odgovoriti izazovima inovativnog poduzetništva. Uz to, njihov inovativni razvojni potencijal isključivo ovisi o okruženju, tehnološkoj razvijenosti zemlje, makro ekonomskim pokazateljima, fiskalnoj politici, demografiji, jasnoj viziji nacionalnih, regionalnih i lokalnih vlasti, razvijenosti obrazovnog sustava, osobnoj percepciji poduzetnika te njegovoj sposobnosti usvajanja novih znanja i vještina.*

**Ključne riječi:** *Konkurentnost, poduzetničko inovacijske politike, malo gospodarstvo, inovativno poduzetništvo, re-industrijalizacija.*

## 1. Introduction

The appropriate economic policy measures must support the strengthening of the competitiveness of innovative enterprises. This is the stand point of the authors of this paper.

The impact of the current national model of incentives in the context of entrepreneurial innovation policies should, if targeted toward commercialization of innovations and raising the technological level of the company, produce a mirror image to show the direction to the industry of the 21st century, or more appropriately, in the context of Croatia, re-industrialization process<sup>1</sup>.

---

<sup>1</sup> Ožanić, M.: (2013.): Re-industrialization and Knowledge Based Entrepreneurship Development, Conference proceedings of the 26th International Electrical Engineering Symposium EIS 2013 NT, Šibenik, 5.8. May 2013, Session on Croatian Strategy of Industry Development 2020.

The innovative enterprise growth find the series of problems in trying to develop the innovations that are directly related to the problem of an innovative team building and human resources investments able to create an added value for the new innovative products or innovative organization development.

This paper also analyses the national policy measures adequacy toward innovative SMEs, innovative enterprise needs, and describes the difference between sole innovator and innovative teams.

## 2. Innovation Development Process

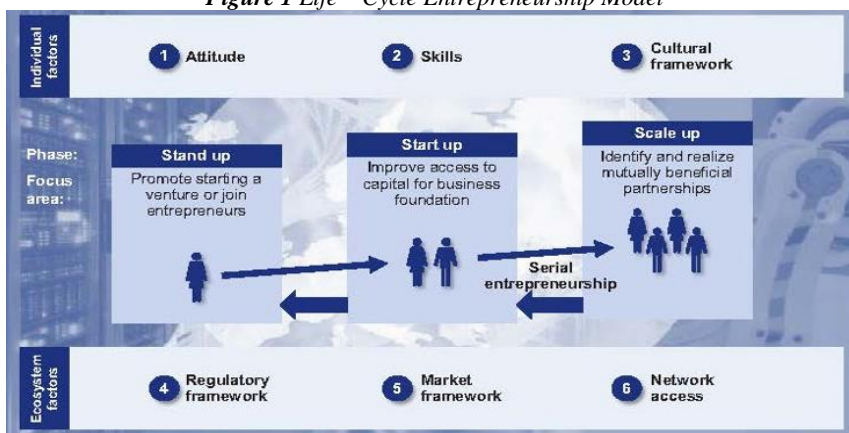
The successful innovation development within entrepreneurship process means increase of the society values, and it depends on national, regional, and local policy level. Successful innovation development process in entrepreneurship, or in other words the measures of economic policy depends on a familiarity with the content of innovation, invention or creativity term.

The development of innovative society or the creation of innovation depends on two crucial factors; the first one is the internal that may be affected by an innovative entrepreneurial company and the other one is the environment in which the entrepreneur operates. The first factor of innovation in enterprises is the result of continuous building of intellectual capital in order to create new services or products.

This second factor may not be influenced by the entrepreneur independently and it is necessary to recognize and continually solve problems that adversely affect the development of innovative entrepreneurship. Specifically, authorities at national, regional and local levels should also apply the so-called innovative development process of the environment.

Peter Drucker divided innovation on technical and social one and emphasized that the social innovations are more important than technical one. Among the social innovations there are all those invented new solutions which have been created in order to resolve the consumer problems, and the consumers are ready to pay for these services. Under the term of the technical innovation it is considered a new technical solution which in terms of technology is more advanced and more usable.

*Figure 1 Life – Cycle Entrepreneurship Model*



Source: Drucker, P.: *Innovation and Entrepreneurship*, Globus, Zagreb, 1992.

"Invention or creativity is capability to find and to create something new in any sphere of the human performance. Invention is precondition to economic, social, materialistic and spiritual achievement.

But, invention reaches its own purpose only if it turns to an innovation. In economy the innovation means newly and in a reality applied new product, new combination of process factors, new organization, new knowledge, new management methods, new market, new technological solutions, and last but not least new business process and new human relationship. Only the enterprise which is in continue change, innovates and is ready and capable for constant changes begin to be an inventive – innovative enterprise."<sup>2</sup>

Permanent dynamic changes in economy create great impact on SME sector. The SME sector is the most relevant sector in economy in every state and it is prerequisite to recognize SMEs needs in the process of their adaptability which makes very important issue that helps governments to put on appropriate economic measures to support the innovations in entrepreneurship.

It is well spread knowledge that on-going innovations assure competitive advantage on the market, and consequently the competitiveness raised profitability which per ipso is providing the opportunities for enterprise sustainable growth.

Figure 1 clearly shows the great impact of the individual and the ecosystem (external) factors. Individual factors are attitude, skills and cultural environment, while external factors are regulatory and market environment, and network access. The individual factor "Attitude" means an entrepreneurial mind-set and the ability to take risks, as well as the existence of high levels of persistence. An entrepreneur in Croatia copes with difficulties with risk-taking, as he is not systematically raised and educated in this a way. Croatian entrepreneur does not have an entrepreneurial education, either formal or informal, and the chance to gain extremely important entrepreneurial experience. Individual factor "Cultural or Social Environment" is a set of factors that give support to or hinder an individual entrepreneurial behaviour and significantly affect the positive development of the entrepreneurial ecosystem and promote innovative development entrepreneurs.

In Figure 1 is also visible the importance of factors affecting the ecosystem, namely the environment. Thus the emphasis is on three basic factors, such as Regulatory and Market Framework and Network Access. "Regulatory Framework" defines the legal framework having the effect on creation of certain administrative process for entrepreneur and management of his company.

An example is complicated Croatian legislation that often changes and causes an increase in administrative activities. "The market framework" refers to the availability of necessary inputs and their process transformation in order to meet demand and customer needs, and to create value-added products.

In order to achieve the maximum impact of national economic policy measures the management of the innovation process have to be known. The innovation process management is a consequence of familiarity with the process itself. Innovation development understanding and familiarity with needs of entrepreneur innovators and on basis on such recognized needs, national policy measures could be created.

The development of innovation in Croatian enterprises primarily depends on their level of development, both micro and small companies use linear models, while medium companies use

---

<sup>2</sup>Deželin, J.: Entrepreneurship and technology innovation, Croatian economic review, Zagreb, 1998, p.1073.

other development innovative models. There is a trend that young innovators whose innovation is based on high-tech products use all models in the development of their innovations, especially if funded by joint venture capital or by business angels.

Further in this paper shall be described current national policy measures that cover limited part of the innovation development. That is a part aimed to the innovators i.e. entrepreneur innovators. More precise definition could be the sole innovator as person who likes to sell its innovation. The entrepreneur innovator wants to commercialize its innovation.

When an enterprise reach the growth phase, the same one should be connected with universities, research institutes, development agencies, technological centres, entrepreneurs and some others key stakeholders in innovation development process.

### **3. Croatian Government Innovation and Entrepreneurship Policy**

We have explained the process of innovation development and we have recognized and get familiar with the needs of the entrepreneur-innovator. The part which follows now will describe national policy measures which in our opinion cover only one segment of the innovation development i.e. the segment of innovators and entrepreneur-innovators.

The Croatian Government have started the "Innovation Development Programme» since 2000 within a framework of the Programme for SMEs Development<sup>3</sup>. Important segment within general goal of this Programme was to give a support to the innovation in order to turn the innovation into the final product for the market. Programme encompassed different measures supporting innovations during a process of commercialization in to the final product for market.

In the Programme the innovation has been defined as turning of the new ideas and the new process solutions toward commercial use of both the products and services. The objective of this Programme was incentive to as much as more innovators to support them to start their own business using the innovation as a potential to create new domestic product.

In the paper *Innovation and Entrepreneurship- Croatia Case*<sup>3</sup> six years(2000-2005) of the Innovation Development Programme's implementation outcomes were surveyed. The survey summary showed that the relative incentive schemes had been granted mostly for: innovation patent protection, prototype documentation, prototype manufacturing, promotion and presentation, exhibition on specialized national and international fairs, and commercialization with final goal to create a new domestic product on the market.

This paper's empiric research goals are set up to analyse how the entrepreneurial innovative policy measures are reflected on the competitiveness of enterprises in Croatia. The authors share the vision<sup>4</sup> that the focus should be successful industry and successful competitive companies that will create new value, export their products to the world market, create profits and revenue budget. Croatian model of strengthening the competitiveness of enterprises should demonstrate its effect in order to reflect the industry of the 21st century. These are knowledge industry and knowledge-based entrepreneurship that will produce innovative products competitive on the world market and create new jobs. Croatia has an entrepreneurial and creative potential of their human capital and this should be the basis for new industrial development.

---

<sup>3</sup> Karajić, D., Cingula, M., Lneniček, T.: Innovation and Entrepreneurship: Case Croatia, Entrepreneurship in United Europe – Challenges and Opportunities International Conference, 13-17 September 2006, Sunny Beach, Black Sea, Bulgaria, Conference Proceedings, p. 43-58.

<sup>4</sup>Idem, reference 1, p. 3

## Innovation Development Programme Incentive Schemes

Since the beginning of the Innovation Development Programme implementation in the year 2000-2001-2002 the applicants mostly used incentives for the innovation patent protection and for development of an idea, in other words from idea up to the patent.

The Table 2 below shows the results of the Innovation Programme Implementation of the first six years cycle i.e. the period 2000-2005.

**Table 2** Number of requested and granted applications and percentage of applicants by their legal status in the period 2000-2005

	Total number of applications		Business legal status		Total amount of incentives
	App. requested	App. granted	Persons in %	Legal persons in %	In HRK
<b>2000</b>	145	101	95%	5%	3.452.720
<b>2001</b>	163	103	95%	5%	2.461.610
<b>2002</b>	191	116	90%	10%	2.785.480
<b>2003</b>	131	85	90%	10%	1.798.270
<b>2004</b>	153	116	71%	29%	2.296.800
<b>2005</b>	385	231	75%	25%	3.975.927
<b>TOTAL</b>	<b>1168</b>	<b>752</b>			<b>15.770.807</b>

Source: Ministry of Economy, Labour, and Entrepreneurship; Annual Reports on Innovation Development Programme results for the years 2000-2005

In Table 2 we are following the total number of requested applications for each year during period 2000-2005. There was total number of 752 applications granted during six years period with total amount of HRK 15.770.807, approximately EUR 2,2 million.

Table 2 is showing the business legal status making difference between applicants as natural persons - innovators, and legal persons, business registered as company or craft.

## Next cycle of the Innovation Development Programme Incentive Schemes 2008-2013

In order to reach this paper's empiric research goals to analyse how the entrepreneurial innovative policy measures are reflected on the competitiveness of enterprises in Croatia, was interesting to follow the same national measures for innovation development support in the next six years period of time, from 2008-2013.

The authors in one hand have evidenced the continuity of the national Development Programme Incentive Schemes' measures and in such way approving the existence of relative national register of innovation incentives as internal data base of the Ministry. From the mentioned register the relative quantity data on total number of granted applications, average amount per each incentive, and total amount of incentives for each year, is available. The names of the applicant enterprises are registered as well and impact on their incentive is also followed-up.

**Table 3** Number of granted applications, total amount of granted incentives, and average amount of incentive per applicant in the period 2008-2013

	<b>Total number of granted applications</b>	<b>Average amount per incentive in HRK</b>	<b>Total amount of incentives in HRK</b>
<b>2008</b>	249	24.936	6.209.190
<b>2009</b>	208	35.008	7.281.700
<b>2010</b>	144	48.611	7.000.000
<b>2011</b>	206	38.145	7.858.000
<b>2012</b>	50	193.841	9.692.070
<b>2013</b>	11	364.000	4.000.000
<b>TOTAL</b>	<b>868</b>	<b>48.434</b>	<b>42.040.960</b>

Source: Ministry of Economy, Labour, and Entrepreneurship: Annual Reports on Innovation Development Programme results for the years 2008-2011; Ministry of Entrepreneurship and Crafts: Annual Reports on Innovation Development Programme results for the years 2012-2013

The results of the cycle 2008-2013 of the Innovation Development Programme Incentive Schemes demonstrated a turning point because incentives were granted to the enterprises, and not only to the innovators. The granted enterprises were not conditioned to have obligatory registered patent protection at the State Agency for Intellectual Property. The outcome achieved was much more successful in terms of new products launch and new jobs creation.

Further on, a survey put in evidence a qualitative swift that occurred in favour of innovative enterprises. The total granted applications were in favour of innovation commercialization.

In the period of 6 years Ministry financed the Innovation Development Programme in total amount of HRK 42.040.960 which correspond approximately to amount of EUR 5,6 million.

The swift point was surveyed in 2013 when only 11 innovative enterprises got in total HRK 4 million, equivalent of EUR 533.333 or in average the highest innovation incentive's amount in twelve years surveyed period, app EUR 48.533 each enterprise. The Ministry has explored these innovative enterprises as special case studies and in each of them the analyses were done in terms of the impact of correlation between incentives and business performance. These innovative enterprises are still successfully performing on the market.

#### 4. Conclusion

The authors tried to examine the impact of the Innovation Incentives Scheme implementation in period of twelve years. Considering the evidence of the innovation policy measures continue implementation, one should believe that if targeted well toward commercialization of innovations and raising the technological level of the company, shall produce a mirror image to show the direction to the industry of the 21st century. In the context of Croatia that means new industrialization process.

The financial incentive support provided in any critical point of activities involved within innovative process, like different incentive schemes provided by Ministry, are helpful to the innovators as make more efficient innovative enterprises' business performance.

The Innovation Development Program results surveyed in two-times six-years period of its implementation have demonstrated that financial incentives have to be targeted more precisely on successful innovation commercialization i.e. appearance of new domestic product on market.



The Annual Reports on Innovation Development Programme realization demonstrated that an average incentive changed from about HRK 20.970 or approximately EUR 3.000, toward an average of HRK 48.434, or approximately EUR 6.458 per innovation application.

The Programme results of the period 2008-2013 showed that once incentives schemes swift and granted to the enterprises, and not to the protected patent, a successful commercialization occurred. As mentioned previously, the results of 11 innovation enterprises that have received incentives for their innovative products or services have shown strong market growth that is registered and followed-on by the Ministry.

It is good point to refer to WIPO – World Intellectual Property Organization reports' which confirm that only 1% of worldwide protected patents succeed to be commercialized.

Other goals achieved through the implementation of measures and activities within framework of the Government Innovation Development Programme on national level certainly are raised national awareness about the importance of innovation, and adoption of the Strategy for Innovation Development in Croatia 2014-2020.

At the end the authors' belief is that model of incentives support of random innovations must turn into model of managed incentives to the innovations with big potential for successful commercialization. This process should be improved by stronger involvement of the science and should reflect a triple-helix model.

Last but not least is conclusion that innovative development potential depends on the environment, technological development of the country, macro-economic indicators, fiscal policy, demographics, a clear vision of national, regional and local authorities, development of the educational system, personal perception of entrepreneur and its ability to absorb new knowledge and skills, in order to make them able to meet the challenges of innovative entrepreneurship.

## REFERENCES

Deželjin, J.: Entrepreneurship and technology innovation, Croatian economic review, Zagreb, 1998.

Drucker, P.: Innovation and Entrepreneurship, Globus, Zagreb, 1992.

Karajić, D., Cingula, M., Lneniček, T.: Innovation and Entrepreneurship: Case Croatia, Entrepreneurship in United Europe – Challenges and Opportunities International Conference, 13-17 September 2006, Sunny Beach, Black Sea, Bulgaria, Conference Proceedings, p. 43-58.

Kurik, S., R. Lumiste, E. Terk and A. Heinlo (2002) *Innovation in Estonian enterprises 1998-2000*, Foundation Enterprise Estonia, Tallin.

Ožanić, M.: Re- industrialization and Knowledge Based Entrepreneurship Development, Conference proceedings of the 26th International Electrical Engineering Symposium EIS 2013 NT, Šibenik, 5.8. May 2013, Session on Croatian Strategy of Industry Development 2020.

Spremić, M.: Innovative business models „New economy“, Accounting and Financing, Zagreb, vol.3/2001.

Republic of Croatia, Ministry of Entrepreneurship and Crafts, Strategy for SME Development 2014-2020, [www.minpo.hr](http://www.minpo.hr) .

Zilberman, D.: Tehnology Innovation, and Entrepreneurship, University of California, Berkeley, 2005, available at: <http://are.berkeley.edu/courses/PMB10/fall2005/technologytransfer.pdf>

**Andrijana Kos Kavran, MEcon, Lecturer**

Polytechnic of Međimurje in Čakovec/Faculty of Economics Rijeka (Ph.D. study)

Bana Josipa Jelačića 22a, 40000 Čakovec

Phone: +385 99 247 1343 Fax: +385 40 396 980

E-mail address: andrijana.kos.kavran@mev.hr

**Dina Lončarić, Ph.D, Assistant Professor**

Faculty of Tourism and Hospitality Management Opatija

Primorska 42, 51410 Opatija

Phone: +385 51 294 883 Fax: +385 51 292 945

E-mail address: dinal@fthm.hr

**Jasmina Dlačić, Ph.D., Assistant Professor**

Faculty of Economics Rijeka

Ivana Filipovića 4, 51000 Rijeka

Phone: +385 51 355 169 Fax: +385 40 396 980

E-mail address: jasmina.dlacic@ri.t-com.hr

## **AUGMENTED REALITY EXPERIENTIAL MARKETING IN TOURISM**

### **MARKETING DOŽIVLJAJA UZ PROŠIRENU STVARNOST U TURIZMU**

#### **ABSTRACT**

*Experiential marketing was created as a response to the inability of traditional marketing to adjust to the new market conditions of large amount of information and communication revolution. It is a relatively new concept in marketing, defined in different ways by different authors. The methodology in this paper is theoretical research and the main objective is to analyze the various concepts of experience and experiential marketing and to show difference between two concepts. In addition to show application of experiential marketing in tourism with the support of high technology, respectively augmented reality, which is in focus of Augmented Reality Experiential Marketing (AREM). Contribution of this paper lies in providing a comprehensive review of the experience, experiential marketing and augmented reality literature as well as it can serve as a guide for future studies in the area.*

**Key words:** *experience marketing, experiential marketing, experience, tourism, augmented reality*

#### **SAŽETAK**

*Marketing doživljaja nastao je kao odgovor na nemogućnost prilagodbe tradicionalnog marketinga novonastalim tržišnim uvjetima velike količine informacija i komunikacijske revolucije. Relativno su noviji koncept u marketingu, definiran na različite načine od strane različitih autora. Rad se metodološki oslanja na istraživanja postojećih teorija, a osnovni cilj rada je analizirati različite koncepte strateškog i taktičkog marketinga doživljaja i prikazati njihovu razliku. Cilj rada je prikazati primjenu taktičkog marketinga doživljaja u turizmu uz potporu visoke tehnologije, odnosno proširene stvarnosti, koja je u fokusu taktičkog marketinga doživljaja proširene stvarnosti. Doprinos ovog rada*

*nalazi se u prikazu pojmova doživljaja, taktičkog marketinga doživljaja i proširene stvarnosti, te može poslužiti kao vodič za buduća istraživanja u ovom području.*

**Ključne riječi:** *strateški marketing doživljaja, taktički marketing doživljaja, doživljaj, turizam, proširena stvarnost*

## **1. Introduction**

According to the data of World Tourism Organization (UNWTO, 2015), tourism in 2015 marks the 6th consecutive year of above-average growth and has become an important factor that contributes to the economic recovery of many countries, creating jobs in all parts of the world. With international tourist arrivals worldwide, increasing by 4.4% in 2015, this sector follows rising trend, and it is expected to achieve 1.8 billion arrivals by 2030. According to these data, it is evident that tourism is a promising sector on a worldwide basis, but to be able to continue the positive trend in tourist arrivals, it is necessary to create additional contents that would enrich the tourist offer and impact their memorable experiences, as more and more tourists seek reliable, relevant and interesting information that will increase their experience and entertainment (Fritz et al., 2005). Tourist experiences can be enhanced by the use of high technology in every phase of their travel. High technology has the power to create memorable tourist experiences, especially augmented reality technology. Augmented reality can provide tourists to experience much more than physical reality (Dadwal & Hassan, 2014).

In the world of experience economy, where consumers demand more from products and services new dimension of customer satisfaction has emerged (Pine and Gilmore, 1998). This new dimension is referred as experience; an element of company offering that is oriented towards creating valuable experiences for consumers (Wang and Lin, 2010). So, companies realise that they no more are just selling products and services to their customers, but also provide experiences through interaction with them. These experiences are based on customer value co-creation (Vargo and Lusch, 2004). But, different authors approach experience from different perspectives. Some explore them through experiential marketing perspective (Schmitt, 1999, Yuan and Wu, 2008, Smilansky, 2009, Muthiah, 2013) other from experience marketing perspective (eg. Pine and Gilmore, 1999, Lee, Hsiao and Young, 2010, Same and Larimo, 2012). Implementing these different perspectives calls for their better understanding and defining their domains as simultaneous and interchangeable use of different concepts sometimes makes some area confusing and prone to be avoided by researchers.

This paper represents a theoretical synthesis of the most relevant approaches and deeper understanding of experience marketing and experiential marketing, and also covers its usage in tourism with the use of augmented reality. The objectives of this paper are following: 1) give the literature overview of experience and experiential marketing, 2) show the use of experiential marketing in tourism with the use of augmented reality (augmented reality experiential marketing). This paper could be the essential for further empirical researches.

The review provides analysis of peer-reviewed literature on experience marketing, experiential marketing and augmented reality in marketing. Only academic papers and scientific books were planned to be used, but this criteria could only be applied in analysing literature on experience and experiential marketing. While, literature on augmented reality in marketing had to include also professional papers and online resources because of its novelty as a research area and thereof lack of academic papers that explore it.

Paper is organized as follows. After Introduction, literature review on experience in providing products and services, experience and experiential marketing is provided. Also, it is stressed out how experiential marketing in tourism can be enhanced with the use of augmented reality. It ends with conclusion and it offers suggestions for further research.

## **2. Literature review**

### **2.1. Experience**

Schmitt (1999) states that experience is of one of the most interesting areas in the business world, while on the other hand no systematic definition of experience exists in marketing terms (Poulsson and Kale, 2004). This is a consequence of different understanding of experience among different authors (Same, 2012) as they each analyse experience in their research providing a different definition and idea. Hence, no consensus has been reached.

Pine and Gilmore (1998) are among first authors who approach experience as a new way of thinking, in their paper on the experience economy. Typically, economists relate experience with the provision of services, but it is actually a distinct category. The experience can be considered as a next economic offer, considering that consumers want to experience something new, and more and more companies responds with new design of experience and its promotion. The experience is not impersonal construct, but a real offer like any service, good or product. Creating experience as an offer originated from the transition of industrial to a service economy. The experience occurs when a company intentionally uses the services as the stage, and goods as props to engage individual consumers in a way that creates memorable events. Goods are tangible, services intangible and experiences are memorable (Pine and Gilmore, 1998).

An increasing number of consumers are looking for new positive experiences on the market. They are not satisfied just with the highest quality of products and services (Pine and Gilmore, 1998; Schmitt, 1999; Fortezza and Pencarelli, 2011) but they demand more than that from products and services. Therefore, marketing trends started to evolve to a different direction, in which the previous marketing concepts became out-dated. According to Pine and Gilmore (1998) experience has four dimensions that are related to consumer participation (passive and active) and relationship (absorption and immersion). These dimensions are entertainment, esthetic, education and escapist.

After entering the age of experience economy, regardless of business, county or city governments, marketing objectives are oriented towards creating a valuable experiences or even irreplaceable experiential value for consumers (Wang and Lin, 2010). Therefore, the experience economy requires a different approach to marketing that can not be based on traditional marketing premises (Schmitt, 1999). As a consequence of this new approach, creation of experience and experiential marketing has emerged. Companies create value for customers providing them special experiences. Therefore, companies do not just sell products or provide services to customers, but also enhance pleasant memories and experiences. Successful companies create loyal consumers by creating memorable experiences (Yuan and Wu, 2008). As a result in this experience stage, company's profit is improved compared to its level in previous, pure commodity, stage.

### **2.2. Experience marketing and experiential marketing**

There are four major schools of experience and experiential marketing, which represent different concepts (Riivits-Arkonsuo, Leppiman, 2013): 1) American school focused on marketing management and the economy (Schmitt representing experiential marketing, and Pine and Gilmore experience marketing); 2) the Nordic school focused on the design of experience products and services (Gelter, Tarssanen, Kylänen, Leppiman); 3) Central European school focused on personal development and learning, experience based learning (Boswijk, Thijssen, Peelen, Snel); 4) other schools of thought, such as German school (Weinberg), Italian school (Carù, Cantone, Addis, Fortezza, Pencarelli) and UK school (Tynan, McKechnie). This paper examines American school of experience and experiential marketing, as it is a dominant school among researches.

Authors like Schmitt (1999), Smilansky (2009) and, Muthiah (2013) in their papers when exploring experience from marketing perspective refer to it as experiential marketing. While, others when exploring the same phenomenon refer to it as experience marketing (Pine and Gilmore, 1999, Schmitt, 2010, Same and Larimo, 2012). Confusion arises in defining experience marketing and experiential marketing, which are often used as synonyms (Same, 2012). Same (2012) gave an overview of the theory behind each term and concluded with definition that experience marketing is a strategic marketing of significant experiences that take into account the affective, cognitive and conative perspective of experience consumption, while experiential marketing defines as a marketing tool that focuses on the tactical and operational level, where the main issue is how to develop and execute marketing campaigns. Recently, Basoc (2015) consider that differences between experience and experiential marketing aren't generally accepted, there is still a strong debate on their relevance; the experiential marketing and the experience marketing are terms that are interchangeably used even in the same author's work; and the most important, the experiential marketing and the experience marketing usually incorporates identical ideas.

### 2.2.1. Experiential marketing

Experiential marketing was first mentioned by Schmitt (1999), as a response to the inability of traditional marketing to adapt to the new market conditions of large amount of information and communication revolution. Besides Schmitt, other authors have also developed their conceptual domain of experiential marketing (Table 1).

*Table 1. Overview of experiential marketing concepts*

Author	Conceptual domain
Schmitt (1999)	Strategic Experience Modules+Experience providers
Yuan and Wu (2008)	Tactic
Smilansky (2009)	BETTER+IDEA+SET MESSAGE
You-Ming (2010)	Communication method
Muthiah (2013)	Tool

*Source: authors' research*

Experiential marketing by Schmitt (1999) consists of two concepts: Strategic Experience Modules (sense, feel, think, act and relate) and Experience providers, which can be used separately or in combination, in creation of memorable experiences:

- Sensory experiences are focused on five senses (sight, sound, touch, taste, smell) and are stimulated through aesthetic and excitement;
- Affective experiences are focused on consumers inner feelings and emotions;
- Creative cognitive experiences are focused on the intellect with the objective of creating cognitive, problem-solving experiences that engage customers creatively;
- Physical experiences, behaviours and lifestyles are focused on showing customers alternative ways of doing things, alternative lifestyles and interactions;
- Social identity experiences contain aspects of sense, feel, think and act experiences and expands beyond the individual's personal, private feelings, thus relating the individual to something outside his/her private state.

The implementation of strategic experience modules is possible with help of experience providers. These experience providers include communications, visual and verbal identity and signage, product presence, co-branding, spatial environments, electronic media and people (Schmitt, 1999).

According to Yuan and Wu (2008), experiential marketing can be seen as a marketing tactic designed by a business to stage the entire physical environment and the operational processes for its customers to experience. The authors examined the performance of experiential marketing by measuring customers' perception and concluded that experiential marketing can induce customer satisfaction through emotional and functional value provided by feel perception, think perception, and service quality.

Smilansky (2009) combines experiential marketing with brand management and defines it as a process of identifying and satisfying the customer's needs and their wishes, including it in two way communication which adds the value to target group and revives the brand identity. His experiential marketing concept consists of searching the right idea using BETTER (B (Brand personality), E (Emotional connection), T (Target audience), T (Two-way interaction), E (Exponential element), R (Reach)) model, presentation of this idea using IDEA (I (Inspiration and illustration), D (Details), E (Evaluation), A (Approximate budget)) format and creating plan for achieving the best results and measurement instruments using SET MESSAGE (S (Situation and background), E (Experiential objectives), T (Target audience), M (Message), E (Experiential Strategy), S (Selected locations and Brand Ambassadors), S (Systems and mechanisms for measurement), A (Action), G (Gauging effectiveness), E (Evaluation)) model.

Based on Schmitt model You-Ming (2010) considers experiential marketing as a kind of face-to-face communication method and confirms strong connection between design of experiential marketing and activities related with the brand image and customer loyalty.

Muthiah (2013) develops conceptual model of pleasant and memorable experiences, in which he combines Pine and Gilmore's theory and Schmitt's model. This model consists of inputs which are given to customers through experience of fun, learning, communication, visual identity, product presence, brand management, physical environment, electronic media and people. Senses are also an input for customers. Outputs are pleasant and memorable experiences for customer.

The all above mentioned definitions of different authors focus on experiential marketing and emphasize its tactical dimension. Hence, experiential marketing is a tactical, rather than a strategic approach that marketers should consider central to their integrated marketing communications plans, including techniques, which are part of the core experience marketing strategy (Same and Larimo, 2012).

### 2.2.2. Experience marketing

The focus of experience marketing is experience in marketing terms and its offer (Same, 2012). Table 2 gives an overview of experience marketing concepts.

*Table 2. Overview of experience marketing concepts*

Author	Conceptual domain
Pine and Gilmore (1998)	Emotions+learning
Baron, Harris and Hilton (2009)	Memorable events
Schmitt (2010)	Experiential value+Types of Consumer Experiences+Ordinary and extraordinary experiences+Experience Touchpoints
Lee, Hsiao and Yang (2010)	Rational decision making+emotional consumption experience
Same and Larimo (2012)	Stimulus+Interaction+Experience+Value

*Source: authors' research*

Pine and Gilmore (1998) argue that experience marketing can create consumer emotions, creating fun for them, allowing them to escape from reality, teaching them and giving them the aesthetic objects or places to see, so the process of design of memorable experiences should engage all five senses, should theme the experiences, harmonize impressions with positive cues, eliminate negative cues and mix in memorabilia.

According to Schmitt (2010) key concepts of experience marketing are: 1. experience value (a hedonic value results from enjoyment and entertainment), 2. types of consumer experiences (sensory-affective, cognitive-intellectual, behaviour and action-oriented), 3. difference between ordinary experiences (that occur as part of everyday life) and extraordinary experiences (that are more active, intense, and stylized), and 4. experience touch points (at each stage of experience engagement model (discover, evaluate, acquire, integrate, extend), there are touchpoints between the company, and its products and services, and consumers, which may result in experiences).

Lee, Hsiao and Yang (2010) argue that experience marketing is trying to stimulate marketing experts to increase the total experience quality for customers using brands, including rational decision making and creating consumption experience connected to emotions. Similarly, Baron, Harris and Hilton (2009) point out that experience marketing includes creation of memorable events based on direct inclusion of customers and their perception.

Same and Larimo (2012) give experience marketing model, which consists of: 1. offering or stimulus, 2. interaction between customers and companies, 3. experience and value co-creation, and 4. value. The authors recommend wider use of the term experience marketing, because at the broadest level it is strategic marketing, a field of study, a broader concept referring to the "world of experiences".

The experience marketing perspective includes the process and strategy of experience creation for customers. Hence, authors emphasise the need to strategically approach customer experience and experience co-creation which will help companies to improve interaction with customers to develop relationships that will ultimately lead to the customer loyalty and growth for the company (Same, 2012).

### **2.3. Experiential marketing in tourism with the use of augmented reality**

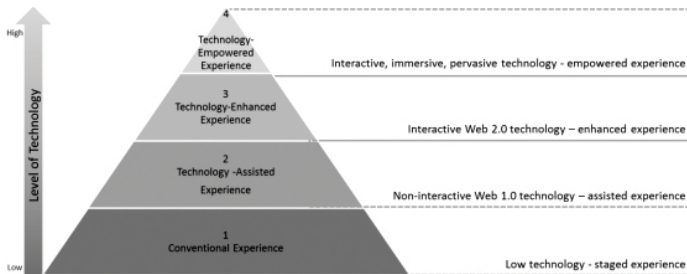
The experience is very important component of every tourist travel and direct result of tourist product consumption. Given that the tourism industry is mostly intangible service based phenomenon, experiences are important part of the tourism industry. Products or services in this industry are always experiential (Williams, 2006), and tourists experience it by staying in the hotel, dining at a restaurant or visiting a tourist destination (Yuan and Wu, 2008). Therefore, the creation of memorable experiences is very important for companies in the tourism industry. Experiences increase the value of the product, brand, company (Schmitt, 1999), services and help consumers make purchase decisions (Williams, 2006). Tourists experiences are grounded in experience economy, in addition to their basic dimensions, include a dimension of excitement and memories (Oh et al., 2007).

The tourist experience is divided into five different phases (Yuan and Wu, 2008, according to Driver and Toucher, 1970): planning, going to a destination, stay in the destination, return and memory of the destination. In all these phases, tourists are influenced by different factors and each phase is suitable to be affected with experiential marketing.

The tourism companies use products and services to create so-called "stage" for tourists (experiential marketing), while tourists at the other side have their expectations and perceptions. The experiencing process connects experiential marketing and perceptions of tourists, and the process is actually experience setting, experience and perception. During and after the experiencing, perceptions of tourists can be seen as the result of experiential marketing (Yuan and Wu, 2008).

Creation of innovative experiences in tourism is possible with the use of high technology, particularly in the phase of tourists stay in the tourist destination. This is the most intense phase, with the greatest potential for creating experiences and value for tourists (Neuhofer et al., 2012). Neuhofer et al. (2014) created a hierarchy of experiences in tourism, according to which technology-empowered experiences are at the highest level (for example augmented reality, industry of computer games and so on) (Picture 2). In this case, high technology is used as experience provider and stimulator of experiential modules.

**Picture 2.** *Hierarchy of experiences in tourism*



Source: Neuhofer, B., Buhalis, D., Ladkin, A., 2014. *A Typology of Technology-Enhanced Tourism Experiences*, pp. 351.

Augmented reality is a high technology, which in recent years has experienced great development. The concept of augmented reality can be defined as an artificial environment that complements the reality with virtual elements, with the aim of improving human capabilities. In this sense, augmented reality creates interactive systems that complement the elements of a complete real environment with the use of devices for the creation of layers and different types of processed data (mobile devices, special helmets, monitoring systems, systems for the visual display, etc.) (PB Works, 2014). Augmented reality is used in marketing campaigns as part of experiential marketing, because his focus is not only on the product service, but on the whole experience that is created for the consumer (Schmitt, 1999). The literature in the last five years has developed the term Augmented Reality Experiential Marketing (AREM) that combines augmented reality and experiential marketing. Several authors (Bulearca and Tamarjan, 2010, Jin and Yazdanifard, 2015, Dadwal and Hassan, 2015) published papers related to AREM, but none of them theory related to AREM, so this area of research needs new insights. Recently papers (Mangiaforte, 2014, Minsker, 2014) predict that AREM will become a big thing on the market. Dohutia (2012) claims that implementing AREM in tourism provides companies with additional benefits. This is especially true in the field of consumer satisfaction and it is evident in increased market share as a result of repeated purchases and positive word of mouth. Mangiaforte (2014) argues that the use of augmented reality in marketing purposes can increase ROI through brand awareness and increased involvement of consumers by providing authentic experiences. Minsker (2014) states that augmented reality will change the way consumers access the market because it will transform the real world into a presentation platform.

Scientific studies are rarely conducted in the field of augmented reality for marketing purposes, because of the unavailability of this technology to scientists. While, conducted researches focused mainly on exploring consumer satisfaction when using products that include augmented reality, such as Glasses Direct (Bulearca and Tamarjan, 2010), the possibility of using augmented reality to create a successful campaigns of experiential marketing (Arora, 2013) and the potential use of augmented reality and its acceptance as a marketing tool (Yim and Chu, 2012).

AREM can be very useful to expand the tourist offer, especially with the possibilities of developing a less attractive tourist areas and/or prolonging the tourist season. Augmented reality can, either



during the season or in its post-seasonal period, complement the existing real tourist offer with virtual contents eg. a tour of historic buildings that no longer exist or participation in virtual historical events in real 3D environment around them. Augmented reality can also create completely new attractive virtual tourist activities, both indoor and outdoor, regardless of the lack of attractiveness of the actual location. In tourism research, few attempts have been made to assess user satisfaction with augmented reality applications and the behavioral intention to recommend them (Jung et al., 2015), however introducing augmented reality applications at tourism destinations does not automatically bring positive experiences (Yovcheva et al., 2013). This depends on tourist acceptance of augmented reality, because those who are satisfied with the usage of innovative technologies tend to have a behavioural intention to use it (Jung et al., 2015).

### 3. Conclusion

The main objective of this paper was to analyze different concepts of experience and experiential marketing and demonstrate its application in tourism. Hence, it is important to distinguish between experiential and experience marketing as their blurred distinction and interchangeable use prevents its wider application. Previous research emphasises that experiential marketing is predominantly used when tactical approach to experience is applied. Hence, it is suggested that researchers that consider tactical dimensions and operational tools and processes related to implementing experience in interaction with customers, that is tourists, should consider using experiential marketing. Conversely, experience marketing is mostly used when strategic decisions related to experience are explored and analysed. Based on previous research it is suggested for researchers that consider planning and strategic dimensions of interaction between experience providers and customers, that is tourists, should focus on experience marketing.

As augmented reality experiential marketing is in its beginning, especially from scientific standpoint, it can enhance current tourist offer in less attractive tourist areas. As well as it can influence tourist arrivals to destination by prolonging the post-seasonal period or attracting more tourists to specific destination that applies augmented reality experiential marketing. Future research could focus in exploring area of tourist acceptance of augmented reality to investigate its relationship with satisfaction in tourism destinations. Research should also investigate augmented reality experiential marketing in order to set the theoretical framework for its future wider usage in science and practice. By contributing to clarifying distinction between experience and experiential marketing further research can enhance and point out the need for their terminological purity and thereof its wider acceptance in scientific research.

### REFERENCES

- Arora, T. R. (2013): *Join the Front Row: An app exploring the potential of augmented reality as a marketing tool*, in [https://www.academia.edu/6962841/Join\\_the\\_Front\\_Row\\_An\\_app\\_exploring\\_the\\_potential\\_of\\_augmented\\_reality\\_as\\_a\\_marketing\\_tool](https://www.academia.edu/6962841/Join_the_Front_Row_An_app_exploring_the_potential_of_augmented_reality_as_a_marketing_tool) (accessed 24 September 2015).
- Baron, S., Harris, K. and Hilton, T. (2009): *Services Marketing: text and cases*, Basingstoke, Hampshire: Palgrave Macmillan.
- Basoc, D.G. (2015): *A Theoretical Approach to Experiences in Marketing – Mastered through Experience Marketing*, Proceedings of International Conference “Marketing – from information to decision” 8th Edition 2015.
- Bulearca, M., Tamarjan, D. (2010): *Augmented Reality: A Sustainable Marketing Tool?*, Global Business and Management Research, Vol. 2, No. 2&3, pp. 237-252.

- Dadwal, S., Hassan, A. (2014): *The augmented reality marketing – a merger of marketing and technology in tourism*, in [https://www.researchgate.net/publication/275336833\\_The\\_Augmented\\_Reality\\_Marketing\\_-\\_A\\_Merger\\_of\\_Marketing\\_and\\_Technology\\_in\\_Tourism](https://www.researchgate.net/publication/275336833_The_Augmented_Reality_Marketing_-_A_Merger_of_Marketing_and_Technology_in_Tourism) (accessed 30 September 2015).
- Dohutia, M. (2012): *A study on augmented reality as a marketing tool*, in <http://www.slideshare.net/mdohutia/a-study-on-augmented-reality-as-a-marketing-tool> (accessed 24 September 2015).
- Fortezza, F., Pencarelli, T. (2011): *Experience Marketing: Specific Features and Trends. The Wish Days Case Study*, Journal of Marketing Trends, Vol. 1, No. 6, pp. 57-69.
- Fritz, F., Susperregui, A., Linaza, M. (2005): *Enhancing cultural tourism experiences with augmented reality technologies*, Proceedings of 6th International Symposium on Virtual Reality, Archaeology and Cultural Heritage (VAST), Pisa, Italy.
- Jung, T., Chung, N. and Leue, M. (2015): *The Determinants of Recommendations to Use Augmented Reality Technologies - The Case of a Korean Theme Park*, Tourism Management, Vol. 49, pp. 75-86.
- Lee, M. S., Hsiao, H. D. and Yang, M. F. (2010): *The Study of the Relationship Among Experiential Marketing, Service Quality, Customer Satisfaction and Loyalty*, International Journal of Organizational Innovation, Vol. 3, No. 2, pp. 352-378.
- Mangiaforte, B. (2014): *Why Augmented Reality Marketing Will Be Huge in 2015*, in <http://www.business2community.com/brandviews/newscred/augmented-reality-marketing-will-huge-2015-01086301> (accessed 20 September 2015).
- Minsker, M. (2014): *Augmented Reality Is A Marketing Tool*, in <http://www.destinationcrm.com/Articles/Columns-Departments/Insight/Augmented-Reality-Is-a-Real-Marketing-Tool-94435.aspx> (accessed 24 September 2015).
- Muthiah, K. (2013): *Experiential Marketing - A Designer of Pleasurable and Memorable Experiences*, Journal of Business Management & Social Sciences Research, Vol. 2, No. 3, pp. 28-34.
- Neuhofner, B., Buhalis, D., Ladkin, A. (2012): *Conceptualising technology enhanced destination experiences*, Journal of Destination Marketing & Management, 1(1–2), pp 36-46.
- Neuhofner, B., Buhalis, D., Ladkin, A. (2014): *A typology of technology-enhanced tourism experiences*, International Journal of Tourism Research, 16(4), pp. 340-350.
- Oh, H., Fiore, A.M., Jeoung, M. (2007): *Measuring Experience Economy Concepts: Tourism Applications*, Journal of Travel Research, Vol. 46, pp. 119-132.
- PB Works, in <http://augreality.pbworks.com/w/page/9469035/Definition%20and%20key%20information%20on%20AR> (accessed 19 August 2014).
- Pine II, B.J., Gilmore, J.H. (1998): *Welcome To The Experience Economy*, Harvard Business Review, July-August, pp. 97-105.
- Poulssohn, S. H. G. and Kale, S. H. (2004): *The Experience Economy and Commercial Experiences*, The Marketing Review, 4, pp. 267-277.

Riivits-Arkonsuo, I., Leppiman, A. (2013): *Consumer online word-of-mouth – analysis through experience pyramid model*, 9<sup>th</sup> Eurasia Business and Economics Society Conference, January 10-13<sup>th</sup>, 2013, Rome, Italy.

Same, S. (2012): *Understanding Experience Marketing: Conceptual Insights and Differences from Experiential Marketing*, in <http://www.marketing-trends-congress.com/archives/2012/Materials/Papers/Marketing%20Strategy/Same.pdf> (accessed 30 September 2015).

Same, S., Larimo, J. (2012): *Marketing Theory: Experience Marketing and Experiential Marketing*, 7<sup>th</sup> International Scientific Conference “Business and Management 2012, May 10-11, 2012, Vilnius, Lithuania, pp. 480-487.

Schmitt, B. (1999): *Experiential Marketing*, Journal of Marketing Management, vol. 15, pp. 53-67.

Schmitt, B. (2010): *Experience Marketing: Concepts, Frameworks and Consumer insights*, Foundations and Trends in Marketing, Vol. 5, No. 2, pp. 55-112.

Smilansky, S. (2009): *Experiential Marketing: A Practical Guide to Interactive Brand Experiences*, Kogan Page, London.

UNWTO-World Tourism Organization, in <http://media.unwto.org/press-release/2015-09-24/world-tourism-day-celebrating-billion-opportunities-brought-about-tourism-s> (accessed 25 September 2015).

Vargo, S.L., Maglio, P.P., Akaka, M.A. (2008): *On value and value co-creation: A service systems and service logic perspective*, European Management Journal, Vol. 26, pp. 145-152.

Wang, C.Y., Lin, C.H. (2010): *A Study of The Effect of TV Drama on Relationships Among Tourist's Experiential Marketing, Experiential Value and Satisfaction*, International Journal of Organizational Innovation, pp. 107-123.

Williams, A. (2006): *Tourism and Hospitality Marketing: Fantasy, Feeling and Fun*, International Journal of Contemporary Hospitality Management, Vol. 18, No. 6/7, pp. 482-495.

Yin, O., Yazdanifard, R. (2015): *The Review of the Effectivity of the Augmented Reality Experiential Marketing Tool in Customer Engagement*, Global Journal of Management and Business Research, Vol. XV, Issue VIII, Version 1, pp. 13-17.

Yim, M.Y., Chu, S.C. (2012): *Extending the Electronic Technology Acceptance Model: Consumer Adoption of Augmented Reality-based Marketing Tool*, American Marketing Association, pp. 426-427.

You-Ming, C. (2010): *Study on the Impacts of Experiential Marketing and Customers' Satisfaction Based on Relationship Quality*, International Journal of Organizational Innovation, Vol. 3, No. 1, pp. 189-209.

Yovcheva, Z., Buhalis, D., Gatzidis, C. (2013): *Engineering augmented tourism experiences*, Proceedings of ENTER2013, Innsbruck, Austria, 22–25 January 2013.

Yuan, Y., Wu, C. (2008): *Relationships Among Experiential Marketing, Experiential Value and Customer Satisfaction*, Journal of Hospitality & Tourism Research, Vol. 32, No. 3, pp. 387-410.

**Mira Krneta, PhD.**

Croatian Bank for Reconstruction and Development  
Cvite Fiskovica 5, 21000 Split, Croatia  
E-mail address: hbor@efst.hr

**Bahrija Umihanić, PhD.**

University of Tuzla, Faculty of Economics  
Univerzitetska 8, 75000 Tuzla, Bosnia and Herzegovina  
E-mail address: bahrija.umihanic@untz.ba

**Sabina Đonlagić, PhD.**

University of Tuzla, Faculty of Economics  
Univerzitetska 8, 75000 Tuzla, Bosnia and Herzegovina  
E-mail address: sabina.djonlagic@untz.ba

**Ana Marija Alfirević, univ. spec. oec.**

E-mail address: anamarija.alfirevic@gmail.com

**THE CRITICAL START-UP ENTERPRISE SUCCESS FACTORS:  
DEVELOPMENT OF A RESEARCH MODEL**

**KRITIČNI FAKTORI USPJEHA START-UP PODUZEĆA:  
RAZVOJ ISTRAŽIVAČKOG MODELA**

**ABSTRACT**

*This study presents previous conceptual determinants and the outcome of the theoretical model-building, related to the critical success factors (CSFs), relevant for the success of entrepreneurial start-ups. Previous research, in both developed and developing countries, has been reviewed and the preliminary qualitative analysis of previously identified start-up CSFs performed. The preliminary research framework, consisting of the personal (entrepreneurial), organizational (enterprise) and, potentially, institutional factors (as related to the entrepreneurial environment), is presented, along with the range of entrepreneurial outcomes. Those include the survival, profitability and different measures of enterprise growth, such as the turnover and employee growth. Finally, the research model and the methodology for the subsequent empirical research, to be conducted in Croatia and Bosnia and Herzegovina, are discussed.*

**Key words:** Start-up performance, Critical success factors, Croatia, Bosnia and Herzegovina

**SAŽETAK**

*Ova studija predstavlja prethodne konceptualne odrednice i ishodište je izgradnje konceptualnog modela, povezanog sa kritičnim faktorima uspjeha (KFUa), relevantnim za uspjeh poduzetničkih start-up (-ova). Prethodna istraživanja u razvijenim i zemljama u razvoju, su pregledana, kao i preliminarne kvalitativne analize od prethodno utvrđenih kritičnih faktora uspjeha (KFU-a) start-up (-ova). Preliminarni istraživački okvir koji se sastoji od osobnih (poduzetničkih), organizacijskih (poduzeća) i potencijalnih institucionalnih faktora (povezanih s poduzetničkim okruženjem) je predstavljen zajedno s nizom poduzetničkih ishoda. Oni uključuju preživljavanje, profitabilnost i*

*različita mjerenja rasta poduzeća, poput prometa i rasta zapošljavanja. Konačno, istraživački model i metodologija za sljedeća empirijska istraživanja bit će opisana i provedena u Hrvatskoj i Bosni i Hercegovini.*

**Ključne riječi:** *Performanca start-up poduzeća, Kritični faktori uspjeha, Hrvatska, Bosna i Hercegovina*

## 1. Introduction

Ever since the mid 1990s, there has been a visible interest of a wider population of scientists and practitioners in entrepreneurship, entrepreneurs and the encouragement of entrepreneurial activity. The results of the research into entrepreneurial preferences among the adult population in the EU countries in 2014 show that every twelfth citizen of the EU is ready to or has already started an independent enterprise (GEM, 2014). More than half of the adults in the EU (57%) see entrepreneurship as a good career choice.

The preferences towards entrepreneurial activity measured by the number of new business subjects per 1,000 adult persons shows that the value of this indicator in 2014 (6.0) is higher than in some years following 2008.<sup>1</sup> The recent data on start-up businesses in OECD countries show the trend of the increased number of new business subjects when compared to the period preceding the break-out of the global financial crisis, in particular in Australia, Great Britain, Denmark, Portugal, and Sweden (OECD, 2015). However, it is emphasized that in most EU countries the level of start-up entrepreneurs was lower than in the period before the crisis.

The results of this research suggest that more than 50% of start-up enterprises face unsuccessful business operations and closure within the first five years. The rates of five-year survival are different for the countries researched. For example, the start-up survival rates in Austria, Belgium, Luxembourg, the Netherlands and Sweden are constantly higher than in other countries.

Furthermore, the results of the empirical researches show entrepreneurial activities and their relation to economic development (Baumol, 1993; Lumpkin, Dess, 1996; OECD, 1998; Verhul et al., 2002). In the last three decades, the businesses existing less than a year are seen as significant generators of new employment, providing 1.5 million new jobs a year on average (Wiens, Jackson, 2015). However, as showed by the research into the characteristics of business dynamics in the USA, distribution of opening and closing enterprises in terms of their lifespan indicates that the rates of job opening and closing are related to the company age (Haltiwagner, Jarmin, Miranda, 2008).

Regarding the influence of new companies on economic development and the vulnerability of start-up companies at early stages of business operations, the subject of special interest, both in research and in practice, is oriented towards the research into the success factors relevant for business and survival rate of start-up companies. Among start-up companies, a group of business subjects stands out, owned by the persons without previous entrepreneurial experience. Namely, there are special programs for support and encouragement of starting up individual businesses as a method of self-employment and reduced unemployment rate. This is why the paper defines the conceptual model of research into the group of start-up entrepreneurs, focusing on the persons without prior experience in entrepreneurship in terms of opening and running individual businesses. The first part of the paper brings the definition of the start-up entrepreneurs and the review of the relevant literature and results of the research dealing with the beginners. Starting from the three main elements of entrepreneurship namely *People, Process, Place*, their interrelation and influence on start-up companies (Minitti, 2007), a conceptual model is developed and explained of the research into the success factors relevant for business and survival rate of start-up entrepreneurship.

The results of the research are seen as the relevant basis for establishing the appropriate strategy, policy and measures of stimulating start-up entrepreneurship in different industries and for the

---

<sup>1</sup> New Business Density; <http://data.worldbank.org/indicator/IC.BUS.NDNS.ZS> [10/3/2016].

assessment of effects of public support funds in the realization of strategic determinants for encouragement of entrepreneurship activity in general.

## **2. Start-up entrepreneur – definition of the term**

There are numerous and different accounts of entrepreneurial activity at the beginning stage of individual enterprises. Start-ups are defined as temporary organizational forms or entrepreneurial ventures in development and market research, in rather insecure environment (*Marmer et al., 2012, p. 10; Wessel, 2013*). Čalop, Horvat, and Lalić (2014) link the similar definition of start-up business to, although not exclusively, high-technology projects and specially developed programs relatively easy to make and reproduce.

The definitions of the term *new venture* are more frequent in the literature. This term is oriented to the process approach to entrepreneurial activity, including the stage of recognizing the entrepreneurial opportunity, making decision to seize it, implementing and using it (*Sahne, Venkatarama, 2000*).

Regarding the dynamic business environment or the frequency of emergence and failure of businesses, as well as the special vulnerability of start-up businesses, the subject research defined start-ups depending on the defined set of criteria. They include businesses that were just established or have been operative for no longer than 24 months. The owners are the persons without the previous entrepreneurial experience, measured by the status of ownership or co-ownership in other businesses parallel with the established business or previous ownership (co-ownership). Finally, beginners are seen as the owners of businesses who are also self-employed.

Pursuant to the defined criteria, start-up entrepreneurs are not the persons who are parallel entrepreneurs (owning another business) or repeat entrepreneurs. The persons without the intentions to initiate their own business or have still not registered their businesses as independent ventures in some entrepreneurial forms are also not seen as start-up entrepreneurs.

The criteria for specifying start-up businesses can partially be recognized in defining individual stages of the entrepreneurial process in the GEM research (*GEM, 2016*).

## **3. Factors influencing start-up entrepreneurship**

The importance of the factors influencing the realization of start-up entrepreneurial activities causes an increasing interest for many authors dealing with this topic. One of success factors is seen as the relation between individual characteristics of entrepreneurs and the key competences (Pinho, Sampaio de Sá, 2014), whereby the key competences are ability to recognize opportunities in the environment, self initiative, creativity, and orientation towards achievement, development and goal realization.

Watson and Hogarth-Scott (1998) offered a somewhat different approach to start-up research. They made a step further and focused their research on a specific profile of the companies that were able to survive and continue their business in the period of three years following the opening and/unlike those that failed in their entrepreneurial intentions. This means that the research focused on micro and small companies, identification of the key factors to both failure and success in survival and further development, and the influence and relation of these factors with the profile of start-up entrepreneur and business factors and environment. A large number of researches concentrated on the fact that entrepreneur's profile, meaning personality and traits, affects the following: success of start-up survival (Watson and Hogarth-Scott, 1998, ref. to: *Bolton Report, 1971*) realization of business performances (Blackburn and Wainwright, 2014; ref. to: Wiklund and Shepherd, 2003), and business processes and strategic business goals (Blackburn and Wainwright, 2014; ref. to: Barringer and Jones, 2004). This means that the influence of certain factors would make some entrepreneurs better than others (Watson and Hogarth-Scott, 1998; ref. to: Stanworth and Gray, 1991, Ray, 1993).

The research study made by Watson and Hogarth-Scott (1998) identified significant differences in micro and small companies manifested by the influence of entrepreneurs' personality and traits, motivation factors and business goals of success and survival of businesses. The research showed that such companies are more successful (Schutjens and Wevertra, 2000, ref. to: Cooper 1982; Keasy et al. 1991; Storey 1985; Audretsch 1990) and more innovative than the larger ones, they have higher growth and employment rates (Blackburn and Wainwright, 2014, p. 22) and they generate new jobs (Schutjens and Wevertra, 2000; ref. to: Birch, 1979).

Some authors moved away from these approaches and created different perspective on the issue of success factors relevant for start-up survival. Watson and Hogarth-Scott, 1998, referring to Osborne (1993), rule out the relation of these elements to entrepreneurs' personalities and traits and they emphasize the realization of added values, while Blackburn and Wainwright (2014), referring to Sexton and Smilor (1997), state that the critical success factor should be growth, observed through the following factors: company, entrepreneur, and business strategy.

When it comes to success factors, most authors in the previous research focus either on entrepreneur and his/her personality and traits, while other concentrate on company and its performances. The link for most researches was made by Schutjens and Wever (2000) who showed the most important determinants of the success and survival rate of start-ups depending on the age, work experience, necessary competences, ownership structure, location, demographics, etc.<sup>2</sup>

#### 4. Conceptual research model

Differences in the approach and definitions of entrepreneurship, entrepreneurial activity and entrepreneur limit the possibilities for identifying the set of indicators for measuring entrepreneurial success (Shane, Venkataraman, 2000; OECD, 2008).

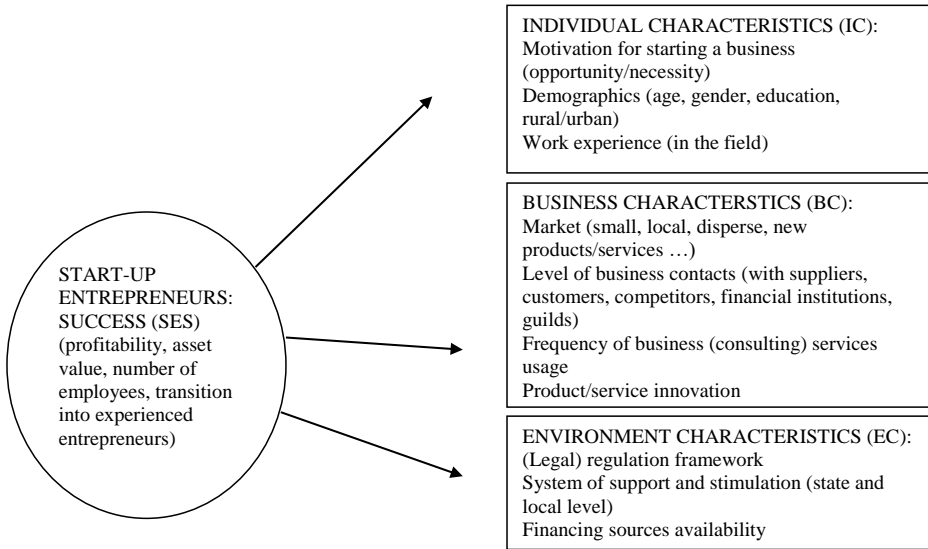
Regarding the set of criteria for defining start-up entrepreneurs, with the formal beginning of independent business activities in any entrepreneurial form is particularly important, the success of this group of entrepreneurs can be measured by a set of indicators related to the general business success. Bailom et al. (2007) link business success with the following: profitability, business growth, competitive market position in terms of product/service quality, brand development, etc., including the subjective assessment by the owner or management of the readiness of the individual business for competitive conditions and challenges in the future.

Answering the question on measurement of business performances of successful enterprises, the literature offers numerous and quite different indicators, including increased profitability and sales, employee number, and survival rate measurement, with the special attention paid to the transition from the start-up status to the experienced entrepreneurs (Bates, 1990; Hall, 1992; Kalleberg, Leicht, 1991; GEM 2015/2016). With reference to the specific characteristics of the population of start-up entrepreneurs, the model defined the following indicators of start-up enterprises' success: (1) profitability, (2) asset value, (3) number of permanent employees, and (4) longevity of business, grouped into businesses existing up to two years and those existing longer. The measurement of employment growth in the model was established at the level of self-employment as follows: with no other employees, between one and five, more than six and less than eleven, and more than eleven employees. The measure of the last group is also considered the transition point from the group of micro into the group of small entrepreneurs.

---

<sup>2</sup> See: Veronique A.J.M. Schutjens, Egbert Wever (2000), "Determinants of new firm success", Urban Research Centre Utrecht (URU), Faculty of Geographical Sciences, Utrecht University, PO Box 80.115, 3508 TC Utrecht, The Netherlands, Papers Reg. Sci. 79, pp. 137-151

**Graph 1** Conceptual model of research into the influence of success factors relevant for start-up entrepreneurs



Source: Authors

In accordance to the results of the previous research into the factors influencing business success, and special characteristics of start-ups, three groups of success factors have been identified, including those related to the individual characteristics of start-up entrepreneurs as well as those related to the business context.

In the group of *individual characteristics of start-up owners*, the important success factor is certainly the motive to enter the entrepreneurship world, whether due to necessity (work with no or illicit payment, longtime unemployment, no chances for employment) or due to recognizing and using business opportunity (change in status from employee to self-employer due to the possibility for higher income). The results of the previous research also show the link between successful business and demographic characteristics of owners-entrepreneurs, previous work experience (especially in the start-up related field), and the advantages caused by relying on entrepreneurial experience of the family, friends and acquaintances.

The group of *main business characteristics* affecting start-up entrepreneur's success includes business market orientation in terms of product and service features (is it a case of new products and services or the replicated ones already existing in the market). The model specifically includes the aspect which links innovativeness and start-up success, whereby some form of protection (formal or informal) of intellectual property is taken as the measure of innovativeness. This group of success factors also includes start-up networking, from various (voluntary and/or obligatory) business associations to suppliers, customers, competitors, financial institutions, etc. The measure of networking rate was established in the model by the longevity of such networks as well as by their frequency. A special place in this group of success factors is given to the frequency and preferences of start-up entrepreneurs for the usage of consulting services in various forms, from both public and private sources.

Apart from the regulation framework, directly and particularly related to start-up businesses, the third group of success factors relevant for business, namely *environment characteristics*, covers the system of start-up stimulation, as well as the availability of financing sources to start-ups, including guarantee usage.



In regards to the results of the previous research, the main hypotheses have been formulated as follows:

H<sub>0</sub>: There is no significant influence between IC, BC, and EC on the one hand and SES on the other.

H<sub>1</sub>: There is no has a negative influence on SES.

H<sub>22</sub>: Opportunity-driven independent business has a positive influence on SES.

H<sub>23</sub>: Work experience and entrepreneurial experience have a positive influence on SES.

H<sub>24</sub>: Rate of development and variety of business networking has a positive influence on SES.

H<sub>31</sub>: Market developed on new products/services and innovations have a positive influence on SES.

H<sub>41</sub>: Level of usage of support measures and stimulation for start-up entrepreneurs has a positive influence on SES.

H<sub>51</sub>: Opportunity-driven independent business has a positive influence on creating the market position based on new products/services or innovations.

H<sub>61</sub>: Level of usage of support and stimulation system has a positive influence on the frequency of business networking and creating the market position based on new products/services or innovations.

The model assumed the existence of the influence between the individual factors identified in the group of factors and the start-up business performances. The influence of individual elements within a group of factors to the individual elements of another group of factors was also assumed.

## 5. Conclusion

Starting-up business and self-employment is seen as an important factor influencing economic growth and development, especially in the economies with high unemployment rates, unbalanced regional development and relatively large segment of the poverty-affected population.

Also, there are many national economies, both developed and developing, which created different and numerous measures to support intensifying entrepreneurial activities and stimulating start-ups as the means for encouraging business dynamics and for decreasing unemployment rate.

The results of the research into the start-up enterprise success factors, specifically measured by the indicators of survival length (two years and longer) and increased employment (self-employment and employment of others) are a relevant basis for the development of the system for the improvement of start-up enterprises. These improvements can be related to the provision of the necessary resources (for example special programs for financing start-up enterprises and issuing guarantees) but also to the set of measured for improving start-up entrepreneurs' knowledge and skills, including the mentor program.

Also, the suggested conceptual research model is a useful basis for the development of an appropriate methodological framework for assessing the influence of start-up support system in terms of control of the efficiency of public fund usage.

## REFERENCES

Bailom, F.; Matzler, K.; Tschernernjak, D.; (2007); *Enduring Success: What Top Companies Do Differently*; Palgrave MacMillan: New York, NY.

Bates, T.; (1990); *Entrepreneur Human Capital Inputs and Small Business Longevity*; *The Review of Economics and Statistics*, 72 (4); pp. 551-559.

Baumol, W.J. (1993), Formal entrepreneurship theory in economics; existence and bounds, *Journal of Business Venturing* 8, pp. 197-210.

Čalopa MK, Horvat J; Lalić M; (2014); Analysis of Financing Sources for Start-up Companies; Management, Vol. 19, 2014, 2, pp. 19-44; [https://www.efst.hr/.../3-KlacmerCalopa\\_et\\_al.pdf](https://www.efst.hr/.../3-KlacmerCalopa_et_al.pdf) (accessed 29 January 2016)

Hall, R.; (1992); The Intangible Analysis of Strategic Resources; *Strategic Management Journal*; 13: pp. 135-144.

Haltiwanger, J., Jarmin, R., Miranda, J.; (2008); Jobs Created from Business Startups in the United States, Kauffman Foundation, [http://www.kauffman.org/uploadedFiles/BDS\\_Jobs\\_Created\\_011209b.pdf](http://www.kauffman.org/uploadedFiles/BDS_Jobs_Created_011209b.pdf). (accessed 10 March 2016)

Jose Carlos Pinho Elisabete Sampaio de Sá , (2014), "Personal characteristics, business relationships and entrepreneurial performance", *Journal of Small Business and Enterprise Development*, Vol. 21 Iss 2, pp. 284 – 300

Kalleberg, A.L.; Leicht, K.T.; (1991); Gender and Organizational Performance: Determinants of Small Business Survival and Success; *Academy of Management Journal*, 34(1); pp. 136-161.

Kathryn Watson Sandra Hogarth-Scott Nicholas Wilson, (1998), "Small business start-ups: success factors and support implications", *International Journal of Entrepreneurial Behavior & Research*, Vol. 4 Iss 3, p. 218

*Kathryn Watson Sandra Hogarth-Scott Nicholas Wilson, (1998), "Small business start-ups: success factors and support implications", International Journal of Entrepreneurial Behavior & Research, Vol. 4 Iss 3, pp. 222; ref. to: Bolton Report (1971), Report of the Committee of Inquiry on Small Firms, chaired by J.E. Bolton, Cmnd. 4811, HMSO, London*

*Kathryn Watson Sandra Hogarth-Scott Nicholas Wilson, (1998), "Small business start-ups: success factors and support implications", International Journal of Entrepreneurial Behavior & Research, Vol. 4 Iss 3 pp. 223; prema: Osborne, R.L. (1993), "Why entrepreneurs fail: how to avoid the traps", Management Decision, Vol. 31 No. 1, pp. 18-21.*

*Kathryn Watson Sandra Hogarth-Scott Nicholas Wilson, (1998), "Small business start-ups: success factors and support implications", International Journal of Entrepreneurial Behavior & Research, Vol. 4 Iss 3 pp. 223; prema: Ray, D.M. (1993), "Understanding the entrepreneur: entrepreneurial attributes, experience and skills", Entrepreneurship & Regional Development, Vol. 5, pp. 345-357.*

*Keasy K, Watson R (1991) The state of the art of small business failure prediction: achievements and prognosis. International Small Business Journal 4 Vol. 9: pp. 11–29; Audretsch DB (1990) Start-up size and establishment exit. Discussion Paper. Wissenschaftszentrum Berlin, Berlin*

Kelley, D.; Singer, S.; Herrington, M; (2016); Global Entrepreneurship Monitor: 2015/2016 Global report; <http://www.gemconsortium.org/report> (accessed 2 April 2016)

Lumpkin, T. and G. G. Dess; (1996); Clarifying the Entrepreneurial Orientation Construct and Linking it to Performance, *Academy of Management Review* 21, pp. 135–172.

Marmer, M., Herrmann, B. L., Dogrultan, E., and Berman, R. (2012). Startup Genome Report Extra on Premature Scaling. [www.startupcompass.co/pages/startup-genome-report-extra-on-premature-scal](http://www.startupcompass.co/pages/startup-genome-report-extra-on-premature-scal) (accessed 12 March 2016)

Minitti, M.; (2007); Entrepreneurship: The Engine of Growth, Volumes 1-3; Praeger.

- OECD; (1998); *Fostering Entrepreneurship, the OECD Jobs Strategy*, OECD, Paris.
- OECD; (2008); *Defining Entrepreneurial Activity: Definition Supporting Frameworks for Data Collection*;  
[http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?doclanguage=en&cote=std/doc\(2008\)1](http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?doclanguage=en&cote=std/doc(2008)1); (accessed 2 April 2016)
- OECD; (2015); *Entrepreneurship at a Glance 2015*; [http://www.keepeek.com/Digital-Asset-Management/oecd/industry-and-services/entrepreneurship-at-a-glance-2015\\_entrepreneur\\_aag-2015-en#page1](http://www.keepeek.com/Digital-Asset-Management/oecd/industry-and-services/entrepreneurship-at-a-glance-2015_entrepreneur_aag-2015-en#page1) (accessed 10 March 2016)
- Robert A. Blackburn Mark Hart Thomas Wainwright, (2013), "Small business performance: business, strategy and owner-manager characteristics", *Journal of Small Business and Enterprise Development*, Vol.20 Iss 1, p. 9.; ref. to: Sexton, D. and Smilor, R. (Eds) (1997), "Growth strategies", *Entrepreneurship 2000*, Upstart Publishing Company, Chicago, IL.
- Robert A. Blackburn Mark Hart Thomas Wainwright, (2013), "Small business performance: business, strategy and owner-manager characteristics", *Journal of Small Business and Enterprise Development*, Vol.20 Iss 1, p. 9.; ref. to: Storey, D.J. (1994), *Understanding the Small Business Sector*, Routledge, London.
- Robert A. Blackburn Mark Hart Thomas Wainwright, (2013), "Small business performance: business, strategy and owner-manager characteristics", *Journal of Small Business and Enterprise Development*, Vol.20 Iss 1, p. 11.; ref. to: Barringer, B.R. and Jones, F.F. (2004), "Achieving rapid growth – revisiting the managerial capacity problem", *Journal of Developmental Entrepreneurship*, Vol. 9 No. 1, pp. 73-87.
- Robert A. Blackburn Mark Hart Thomas Wainwright, (2013), "Small business performance: business, strategy and owner-manager characteristics", *Journal of Small Business and Enterprise Development*, Vol.20 Iss 1, p. 22.
- Shane, S., & Venkataraman, S.; (2000); *The promise of entrepreneurship as a field of research. Academy of Management Review*, 25 (1), pp. 217 – 226.
- Singer, S.; Amorós, J.E.; Moska, D.; (2015); *Global Entrepreneurship Monitor 2014 Global Report*; <http://www.gemconsortium.org/report> (accessed 30 December 2015)
- Verheul, I., Wennekers, S., Audretsch, D. and Thurik, R.; (2002); 'An eclectic theory of entrepreneurship: policies, institutions and culture', in D. Audretsch, R. Thurik, I. Verheul and S. Wennekers (Eds.) *Entrepreneurship: Determinants and Policy in a European-US Comparison*, Boston: Kluwer Academic Publishers, pp. 11–82.
- Wessel M; (2013); *Design Thinking and Lean Thinking as Methodologies for Organizational Ambidexterity in Technology-Based Startup Companies*; [www.dare.uva.nl/cgi/arno/show.cgi?fid=527102](http://www.dare.uva.nl/cgi/arno/show.cgi?fid=527102) (accessed 30 January 2016)
- Wiens, J.; Jackson, C.; (2015); *The Importance of Young Firms for Economic Growth*; E.M.Foundation; <http://www.kauffman.org/what-we-do/resources/entrepreneurship-policy-digest/the-importance-of-young-firms-for-economic-growth> (accessed 10 March 2016)
- Veronique A.J.M. Schutjens, Egbert Wever (2000), „Determinants of new firm success“, Urban Research Centre Utrecht (URU), Faculty of Geographical Sciences, Utrecht University, PO Box 80.115, 3508 TC Utrecht, The Netherlands, *Papers Reg. Sci.* 79, p. 135, ref. to: Birch DL (1979) *The job generation process*. MIT, Cambridge Ma

Veronique A.J.M. Schutjens, Egbert Wever (2000), „Determinants of new firm success“, Urban Research Centre Utrecht (URU), Faculty of Geographical Sciences, Utrecht University, PO Box 80.115, 3508 TC Utrecht, The Netherlands, Papers Reg. Sci. 79, p. 135, ref. to: Cooper AC (1982) The entrepreneurship-small business interface. In: Kent CA, Sexton DL, Vesper KH (eds) *Encyclopedia of entrepreneurship*. Prentice-Hall, Englewood Cliffs NY, pp. 193–208

**Jasminka Mihaljević, M.Sc.**

Josip Juraj Strossmayer University of Osijek  
Faculty of Economics in Osijek  
Trg Ljudevita Gaja 7  
31 000 Osijek  
Phone: +385/91224-4015 Fax: +385/211-604  
E-mail address: jasminka.mihaljevic@efos.hr

**Marta Borić, Ph.D.**

Department of Cultural Studies  
Trg Svetog Trojstva 3  
31 000 Osijek, CROATIA  
Phone: +385/ 98 936 46 12  
E-mail address: mboric@kulturologija.unios.hr

**Iva Buljubašić, Ph.D.**

Josip Juraj Strossmayer University of Osijek  
Department of Cultural Studies  
Trg Svetog Trojstva 3  
31 000, Osijek, CROATIA  
E-mail address: ibuljuba@kulturologija.unios.hr  
Phone: +385/ 98 820 667

**THE PLACE OF BOOKS AND LIBRARIES IN THE FRAMEWORK OF  
CULTURAL AND CREATIVE INDUSTRIES OF THE NEW AGE**

**MJESTO KNJIGE I KNJIŽNICE U OKVIRU KULTURNE I KREATIVNE  
INDUSTRIJE NOVOGA DOBA**

**ABSTRACT**

*New technologies, the internet and digitalization brought about major changes in the cultural and creative industries, affecting authors, designers, architects, musicians, photographers, film artists, advertisers, crafts, publishers, libraries, booksellers, electronic media, museums, galleries, users and customers as their stakeholders. Under the influence of these changes, the library of the new era became the source of traditional and digital information, and free access to information and mediation in their evaluation and transfer became the underlying principle of its activities. The starting premise of this paper is that books and libraries are the levers to link the cultural and creative industries with educational institutions and partners in their environment. The inspirational model of five concentric circles of the cultural industry, which puts the book and the library at the core of the concentric circles as the hotbed of creative ideas, skills and talents, was used to identify the book's and the library's place. This model was also used by the European Commission in its classification of the creative industries. The model suggests that creative ideas, as the core of the creative arts in the form of text, sound or image, spread out like concentric circles and affect all areas of the creative industries that exist in a particular area. The purpose of this paper is to raise awareness of the importance of these industries for the national economy. The paper aims to find effective tools, ideas, activities and processes for creative partnerships and for the interaction with the users and the environment that would facilitate innovative development of*

*library and informational activities, as well as the contribution of libraries to the development of a knowledge-based society. Unlocking the creative potential of the library rests on creative librarians who are creating new value in the system of creative and cultural industries by using elements of marketing at the library. In conclusion, the paper discovers an economic dimension of the products and services of the cultural and creative industries, which promote intelligent, sustainable and inclusive development of the entire society.*

**Keywords:** *books, libraries, cultural and creative industries, library marketing, the five concentric circles model*

## SAŽETAK

*Nove tehnologije, Internet i digitalizacija izazvale su velike promjene u kulturnim i kreativnim industrijama čiji su dionici autori, obrti, izdavači, knjižnice, knjižari, nakladnici, elektronički mediji, muzeji, galerije, dizajneri, arhitekti, glazbenici, fotografi, proizvođači filmova, oglašivači, korisnici i kupci. Pod utjecajem ovih promjena knjižnica novoga doba postaje središte izvora tradicionalnih i digitalnih informacija, a slobodan pristup informacijama i posredovanje u njihovom vrednovanju i prenošenju postaje temeljno načelo njezina poslovanja. U radu se polazi od postavke da su knjiga i knjižnica poluge za povezivanje kulturne i kreativne industrije s obrazovnim institucijama i partnerima u okruženju. Za određivanje mjesta knjige i knjižnice poslužio je inspirativni model pet koncentričnih krugova kulturne industrije koji knjigu i knjižnicu postavlja u jezgru koncentričnih krugova kao rasadnika kreativnih ideja, vještina i talenata. Ovaj model je poslužio i Europskoj komisiji u klasifikaciji kreativnih industrija. Model sugerira da se kreativne ideje kao jezgra kreativnih umjetnosti u obliku teksta, zvuka ili slike šire poput koncentričnih krugova te zahvaćaju sve sfere kreativnih industrija koje na određenom prostoru postoje. Svrha rada je podizanje svijesti o važnosti ovih industrija za nacionalno gospodarstvo. Cilj rada je pronalaženje djelotvornih alata, ideja, aktivnosti i procesa za kreativna partnerstva i interakciju s korisnicima i okruženjem koji bi omogućili inovativni razvoj knjižnične i informacijske djelatnosti kao i doprinos knjižnice stvaranju društva znanja. Otključavanje kreativnih potencijala knjižnice počiva na kreativnim knjižničnim djelatnicima koji uz korištenje elemenata marketinga u knjižnici stvaraju novu vrijednost u sustavu kreativnih i kulturnih industrija. Zaključak je spoznaja ekonomske dimenzije proizvoda i usluga kulturne i kreativne industrije te poticaj inteligentnom, održivom i uključivom razvoju čitavog društva.*

**Ključne riječi:** *knjižnica, kulturne i kreativne industrije, marketing knjižnice, model pet koncentričnih krugova*

### 1. Introduction

The role of books and libraries has changed several times throughout history. In the modern digital age, the perception of libraries has completely turned away from the traditional understanding of the library as a collector, protector and organizer of library materials and material providers, and has moved toward the understanding of libraries as the organizers of electronic resources and collections using new technological tools to support readers and researchers, particularly in the academic arena (Mihaljević, 2015, 544). The digital age brought about changes in the production of books and library materials that equally affect authors, publishers, libraries, bookstores, distributors, designers, photographers, producers of films, music videos and video projections, advertisers, users and buyers. Digital networks have produced a number of new ways to communicate, but they are still a long way from a complete transformation of the society, because they are not available everywhere and to everyone. Paper in the form of books, journals, manuscripts, and the written word remains the basis for keeping records about the social life and existence. Written forms of expression on paper have always had the added role of promoting other written, audiovisual and

digital forms produced within the conglomerate of the cultural and creative industries, intertwined in a network of interrelations.

## **2. Objective, purpose and premises of the paper**

This paper aims to identify the place and the role of books and libraries in the cultural and creative industries system, as well as to find and utilize effective tools, ideas, activities and processes for creative partnership and interaction with the users and the environment to ensure the contribution of libraries to the creation of new values and the development of a knowledge-based society. The purpose of the paper is to raise awareness about the importance of books and libraries in the cultural and creative industries system for the national economy.

The paper is based on accepting the EU model of five concentric circles of the cultural industry, which puts books and libraries at the heart of creative ideas, skills and talents. The paper is based on the premise that books and libraries are the levers to link cultural and creative industries with educational institutions and partners in their environment. The creative potentials of libraries rest on creative librarians who use marketing in the promotion of books and libraries to ensure their survival and development. This approach enables innovative development of library and information activities and its integration with other activities that are a constituent part of the cultural and creative industries.

## **3. Creativity, creative economy, cultural and creative industries**

*Creativity* is associated with originality, imagination, inspiration, inventiveness and ingenuity. It refers to the ability of individuals to express ideas associated with knowledge that are an essential part of intellectual capital. Creativity can be defined as the characteristic of a person who continuously creates ideas or products that are original, valuable and applicable, and that the individual or the society consider creative. It takes form as a combination of thoughts, motivations and personality characteristics in the direction of “creating new businesses and organizations, inventing new ways of teaching, and generally living creatively”, and encouraging people to “think creatively” (Torrance, E., 1972, 3). In the digital age, creativity has become the leading driver of growth and development, but also an aspiration to emphasize one’s own cultural and creative identity and potential. The economic aspect of creativity is very significant too, because it contributes to entrepreneurship, improves innovation, increases productivity, and promotes economic growth.

“The term *creative economy* as the term for the sector of macroeconomy that produces goods and services whose production requires a significant input of creativity is now well established, yet the confusion and disagreement about the industrial composition of this sector persists.” (Throsby, 2008, 1) The basis of the creative economy on the global level consists of cultural and creative industries, which the latest indicators place among the fastest-growing European and global industries. The global community has recognized the role of culture in curbing poverty (Goldstein, 2016, 18). The cultural and creative industries are among the world’s most dynamic sectors because they stimulate economic, social and cultural changes. The cultural and creative industries (Hesmondhalgh, Pratt, 2005) include the production of cultural and creative assets (movies, music, books, TV programs, etc), and their reproduction and distribution using information and communication technologies.

According to the definition by UNCTAD (2008, 9), cultural industries are “...the set of economic activities that combine the functions of conception, creation and production of culture with more industrial functions in the largescale manufacture and commercialization of cultural products.” The UNESCO (2013, 20) states that cultural industries “encompass a wide range of fields, such as

music, art, writing, fashion and design, and media industries, e.g. radio, publishing, film and television production.” New technologies, digital networks and the internet have produced a number of new ways of communication and new media, and stimulated further development of creativity and cultural production in the direction of complete transformation of social life. Cultural industries combine creativity, production and commercialization of creative contents copyrighted because of their originality. Cultural industries are connected with the creative industry through different approaches like economics of culture, political economy, sociology of culture, media studies and cultural studies, and are also a forerunner of creative industries.

The term *creative industry* was first used in 1994 in Australia in the document “Creative Nation” (UNCTAD, 2009). The concept of creative industries is also attributed to the British project “Cool Britannia” and to the establishment of the Commonwealth Department of Communications and the Arts at the Department for Culture, Media and Sport (DCMS, 2001, 11) in 1997. The most frequently cited definition of creative industries is the one by the Department for Culture, Media and Sport (DCMS, 2003, 11), according to which creative industries are “those industries which have their origin in individual creativity, skill and talent and which have a potential for wealth and job creation through the generation and exploitation of intellectual property”. According to the UNCTAD, creative industries “can be defined as the cycles of creation, production and distribution of goods and services that use creativity and intellectual capital as primary inputs. They comprise a set of knowledge-based activities that produce tangible goods and intangible intellectual or artistic services with creative content, economic value and market objectives” (UNCTAD, 2008, 4). Creative industries comprise a wide range of activities, including the cultural industries, which is based on knowledge and skills, the capacity for transforming knowledge into new knowledge, and ideas that affect innovation and implementation through new technologies. The items, products or services of the creative industries have a great tangible and intangible value and consequently a substantial social impact, and are protected by copyright law and are considered cultural properties (Tomašević, 2015, 62). “The cultural and creative industries include the production of cultural goods (film, video, books and other products of the publishing industry, music products, etc), new information and knowledge, which are reproduced using new (communication) technologies” (Švob-Dokić et al., 2008, 58). The products and services of the cultural industries (e.g. music, film) are often reproduced en masse and thereby generate further profit and promotional effects.

### 3.1. The significance of the cultural and creative industries

The global significance of the creative and cultural industries is evident from employment and revenue figures. This is confirmed by the fact that they directly or indirectly employ around 29.5 million people, or 1% of the world’s active population (Ernst and Young, 2015, 15). The cultural and creative industries generated US \$ 2.253 billion of revenues worldwide in 2013, which translates to 3% of the global GDP (Table 1). In Europe, they employ 7.7 million people and generate US \$ 709 billion of revenues.

**Table 1** Revenues and employment in cultural and creative sectors

CCI sectors	Revenues in USD\$	Employment
Books	143	3,670,000
Newspapers & magazines	354	2,865,000
Music	65	3,979,000
Performing arts	127	3,538,000
TV	477	3,527,000
Movies	77	2,484,000
Radio	46	502,000
Gaming	99	605,000



CCI sectors	Revenues in USD\$	Employment
Visual arts	391	6,732,000
Architecture	222	1,668,000
Advertising	285	1,953,000
<b>Total CCIs</b>	<b>2,253</b>	<b>29,507,000</b>

*Source: Ernst and Young (2015, 15)*

The significance of the cultural and creative industries was emphasized by the European Commission (2014) when it proposed the new European strategy for the period 2014-2020 called "Creative Europe". This program stresses that the cultural and creative industries promote the following economic, social and cultural changes:

- Economic growth, because the data show that countries with a high concentration of these industries have the highest growth rates of the economy;
- Promotion of mature industries, because they are the biggest proponent of innovation;
- They are an export potential, which increases the possibility of economic integration of individual countries with the European Union;
- Acceptance of tourism as a tool for the development of the identity and attractiveness of each country, because they integrate cultural goods and technological development;
- Promotion of rapid development of cities, as they become the accelerators of cultural heritage and the initiators of development of cultural potentials.

The strategy emphasizes the importance of the resources of cultural and creative industries as major drivers that Europe should base its future priorities on. Apart from the obvious economic contribution, the value of the cultural and creative industries is manifested in their contribution to the cultural diversity of societies.

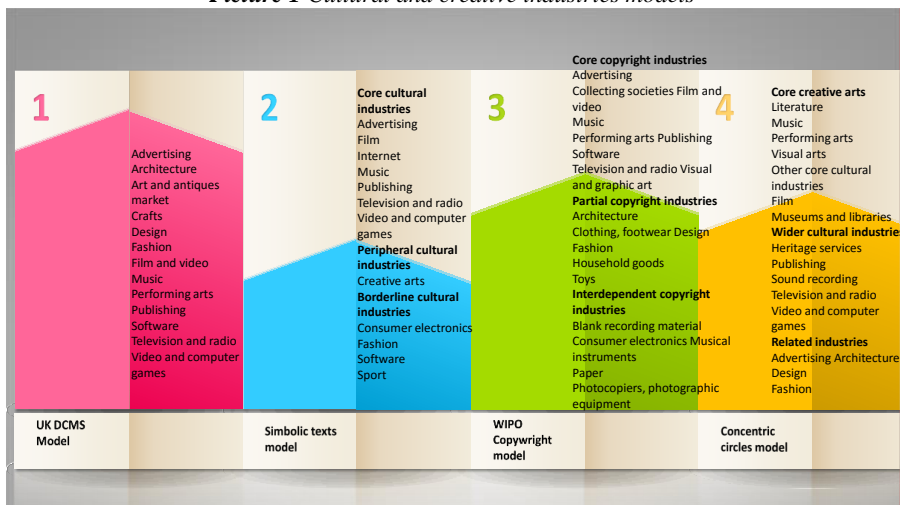
Croatia started to address the identification of the culture and creative industries and their importance in recent times. The latest mapping was done in 2013 by a national project study produced by the Institute of Economics in Zagreb called "Mapping the Creative and Cultural Industries in the Republic of Croatia". "Measuring the economic contribution is based on three pillars: the first pillar is the contribution of the sector of creative and cultural industries to the total gross domestic product of the Croatian economy, the second pillar is employment, and the third pillar is the business sector, including entrepreneurship. The most important contributions to the economy are identified precisely in the business sector" (Rašić Bakarić, at al., 2015, 17). The cultural and creative industries sector in Croatia comprises 45 industries. Books and libraries are a part of the sub-sector "museums, libraries and heritage". The revenue contribution of the cultural and creative industries to the Croatian economy is on the rise. The biggest increase in revenues in relative terms was recorded in the sub-sector of architecture, and the second-biggest increase in the sector of museums, galleries and libraries (Rašić Bakarić, at al., 2015, 87). The study found that the cultural and creative industry sector can be the leader of the creative economy in the Croatian economy and the leader of innovation, and that there is an unexploited potential for cooperation with mature industries. The study identified the potential for competition in foreign markets, the need to raise public awareness of the importance of copyright protection, and the need to develop statistical monitoring. It concluded that it was necessary to produce a strategy for the development of the sector of creative and cultural industries. The most important factor in defining the future Croatian strategic course (Tomašević, 2015, 39) is to draw attention to creativity as the means of creating creative potential and a wealth of cultural resources. The cultural and creative industries not only contribute to the global economy, they also help countries preserve their own identity, and they promote social inclusion, cultural diversity and the development of human potentials.

#### 4. Creative and cultural industry models

The creative economy concept has developed in different directions. Different countries define cultural and creative industries sectors differently. The cultural and creative industries are often seen as a separate entity in economic, cultural and regional development policies, which prevents us from getting a clear idea of the situation within these industries, their real meaning and their impact on the economy. This is because these industries are mutually intertwined and are not clearly statistically defined at country, EU and global level. There are numerous reports around the world about what different models include in the cultural and creative industries. “Those reports are only used as the basis for policy-making in certain countries. It is difficult to reach an international consensus in a short time. Their guidelines differ... And we get different conclusions if we use different models to analyze the same country. There are many disputes” (Wang, 2011, 72). It is therefore necessary to analyze different models and to include all competent stakeholders in order to arrive to a model that would be used for uniform analysis, statistical monitoring and evaluation of these industries. There are no right or wrong models for the explanation of this phenomenon, there are only different aspects of interpretation of the structural characteristics.

The UNESCO Institute for Statistics Model and the Americans Arts Model have both been accepted worldwide in recent times. The UNESCO Institute for Statistics Model divides industries into core cultural domains (consisting of museums, galleries, libraries, performing arts, festivals, visual arts, crafts, design, publishing, television, radio, film and video photography, interactive media) and industries of expanded cultural domains (musical instruments, sound equipment, architecture, advertising, printing equipment, software, hardware, audiovisual) based on cultural goods and services entering international trade. Advertising Architecture Arts schools and services include design, movies, museums, zoos, music, performing arts, publishing, television and radio, visual arts and are based on businesses associated with the production or distribution of the arts (“arts-centric businesses”). Classification systems for the creative industries are derived from different models (Picture 1). Each model is based on certain assumptions about the purpose and the manner of functioning of the creative and cultural industries, and uses a separate classification system.

*Picture 1 Cultural and creative industries models*



Source: authors according to UNESCO (2013, 22)

The UK DCMS model is based on the decision of the Department for Culture, Media and Sport of the UK Government from 1997, which perceived the creative economy as the leading driver of

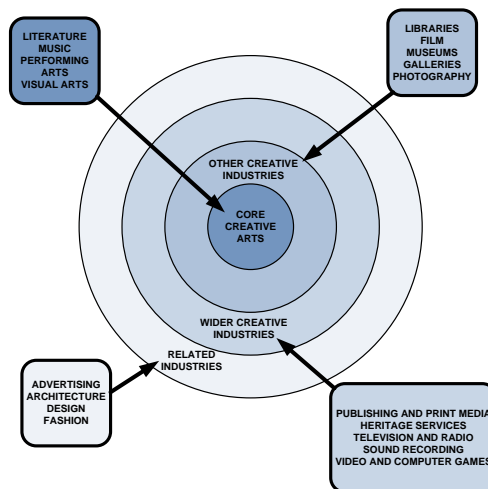
innovation in the modern competitive world. Creative industries are defined as the industries that require creativity, skill and talent and, together with the work and utilization of their own intellectual property, have the potential for growth and job creation, and bring major progress in the future. The model does not make a clear distinction between the creative and the cultural industries, which is considered its greatest shortcoming (DCMS, 2001).

**The symbolic text model** is based on studies of cultural industries funded by the UK government. Its premise is that the modern society is characterized by industrial production and dissemination and consumption of symbolic text. The emphasis is on art that represents the political and social progress of Europe through history, as opposed to the popularization of the pop culture. The model maintains that we must influence the future development of human consciousness through creative industries, but that we must do it in a careful and carefully planned way (Hesmondhalgh, D. Pratt, A. C., 2005).

**The WIPO copyright model** is based on the model of copyright protection in the industries that are directly or indirectly involved in the creation, processing, production, transmission, broadcasting and distribution of intellectual property. This model makes a clear distinction between industries that generate intellectual property and industries that allow this product to reach the customers. The WIPO is the world intellectual property organization and the global forum for intellectual property services, policy, information and cooperation.

**The concentric circles model** (Picture 2) serves as the basis for the classification of creative industries in Europe in the latest studies produced by the European Commission. The concentric circles model was applied in the description of this sector in one of the first studies about this sector called "The Study on the Economy of Culture in Europe Brussels", produced by a Belgian consulting firm (KEA, 2006) for the European Commission in 2006. This model was also applied in the "Green Paper, Unlocking the Potential of Cultural and Creative Industries" (EU Commission, 2010).

*Picture 2 EU Concentric circles model*



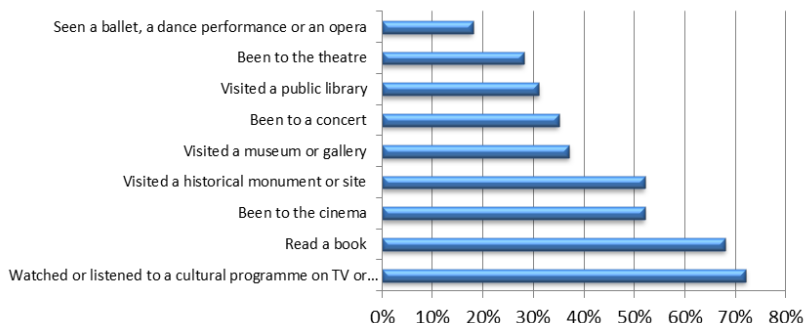
*Source: authors according to: Throsby, D (2008, 157)*

“The concentric circles model of the cultural industries was first enunciated in Throsby (2001) and subsequently developed in other places, for example in recent studies prepared for the European Commission and the UK Work Foundation” (Throsby, Zednik, 2007, 1). The model is based on the assumption that creative ideas are formed at the core of creative arts in the form of text, sound and image, and then spread outside of the core through a series of layers, or concentric circles, with a declining proportion of the cultural, and a growing proportion of commercial content as they move away from the core (Throsby, 2008, 148). The model is based on the fact that cultural values and cultural property are the feature that distinguishes creative industries from other industries. Creators are at the center of creative industries: writers, musicians, creators of photographs and films, artists and arts organizations who produce creative ideas and skills, and possess talents. They are at the center, at the core, and they produce books, music, songs, photos, movies, paintings, sculptures. The second concentric circle merges with the core and is composed of the cultural industries, without which an author cannot work. The creative industries act as mediators in finding, processing, archiving, presenting and granting the use of the author’s works, such as libraries, museums, galleries. The third circle consists of wider cultural industries that support the creation, the presentation of the creations to the buyers and users of copyrighted works, and interaction with them. Other related industries in the fourth circle have the same role, with the addition of marketing. The third and the fourth circles consist of those industries without which the author’s work cannot become a cultural and public property, such as the publishers of written works, the publishers of works in new digital media, producers of TV and radio programs, and others that need the creations of designers, advertisers, and architects to present their properties to the public.

## 5. Books and libraries in the system of cultural and creative industries

The concentric circles model emphasizes the place of books and libraries in the cultural and creative industries as a center of creative ideas, skills and talents. The cultural industries manage creativity in the creation of library materials. The creation of books as author’s works is at the very core of the creative industries. Libraries are the key link between cultural and educational institutions, businesses and communities. They are linked with bookstores, publishers, and other areas of the creative industries involved in the economic progress without which author’s works could not reach the public. Looking at the forms of cultural activities in the European Union, book reading is number two, right after cultural programs on TV and radio (Chart 1).

*Chart 1 Forms of cultural activity in EU*



*Source: authors according to: Ernst and Young (2014,31)*

With sales of more than €36.3b, the book market is a big contributor to the European creative economy. It employs almost 650,000 people across Europe. The largest number of employees is employed at public and academic libraries (Table 2).

**Table 2** Number of employees in the culture industry - the book sector in the European Union

Book publishing activities	135.000
Book specialized stores	32. 000
<b>Public and academic libraries</b>	<b>266.292</b>
Employment in non-specialized stores	51.598
Book selling induced employment	11.235
Authors	150.000
Total employment	<b>646. 125</b>

*Source: Ernst and Young (2014,30)*

Over the past decade, libraries have changed from traditional institutions handling printed material on paper into attractive places that have held on to the printed materials, but also offer multimedia and virtual information, with focus on the user and on free access to information as the fundamental principle of business. The European Bureau of Library, Information and Documentation Association (EBLIDA) considered these changes and estimated that libraries have an important role in the context of cultural and creative industries:

- Libraries stimulate ideas and creativity of the individual, allow access to information, prove a stimulating and safe environment for studying and learning, and develop their own products and create new services.
- Libraries encourage access to the rich and diverse European cultural heritage with geographical and national restrictions and regulations, and in compliance with copyright law.
- Libraries ensure democratic, cultural, educational and social development. Libraries are the bridges of the multicultural society, because they ensure cultural diversity.
- Libraries provide support to other partners in the context of cultural and creative industries.
- Libraries are established close to all groups of citizens, city centers and suburbs, and thereby affect the urbanization and the development of cities.
- Libraries encourage regional development by supporting innovation, enterprise development, and family life, too.

## **6. The use of marketing for the promotion of books and libraries as a part of the cultural and creative industries**

The cultural and creative industries primarily produce author's texts and other multimedia files that use marketing to create and promote other author's works produced within the conglomerate of the cultural and creative industries. The creators of marketing of these industries are employees working either in cultural production, cultural distribution and interpretation, or in cultural management (Buljubašić I., Borić M., Hartmann I., 2016, 118).

Libraries can be used as showcases to display creative products and services, as neutral meeting grounds for all partners, or as the media for the dissemination of produced creations and best practices using the methodology of visual communications. Using the tools from other creative industries, book marketing creators network different industries, impacting their growth and development, and thereby also impacting the development of the national economy.

Marketing has a tremendously important role in libraries. Marketing in non-profit organizations like libraries is not aimed at increasing profits, but at accomplishing goals such as acting as the mediator in providing information, developing information literacy, developing reading habits and so on, which are beneficial for the society as a whole, as well as creating attention, positive thinking and positive opinions of the users about the institution they are a part of. Marketing of a library represents all activities inside and outside of the library by which the public is informed about its activities.

Guerilla marketing is a very popular type of marketing. The definition of guerrilla marketing as introduced by Levinson is both pioneering and persistent: it defines guerrilla marketing as an unconventional system of small or very low-budget communication that relies on the imagination – sometimes flirting with the limits of regulations and/or ethics – rather than on financial means (Cova & Saucet, 2014, 4). Guerrilla marketing is a subtype of marketing that is usually very affordable or even completely free, and that is based on creativity (Buljubašić, Borić, Hartmann, 2016, 118). This is exactly why guerrilla marketing is ideal for use in libraries and other library and publishing activities. Guerilla marketing is used to achieve common goals such as profit and pleasure relying on unconventional methods that invest energy rather than money (KEA, 2006, 89).

## 7. Conclusion

A book, a magazine, a manuscript, whether as a hand-written or a printed record on a digital medium, an e-record or a virtual record, is an author's work and cultural asset, and almost all sectors of the cultural and creative industries take the credit for its development and expansion. Using marketing tools, the library of the new digital era transforms its historical role of the organizer and intermediary in accessing information into the role of creator of new values and knowledge in synergy with other areas of the creative industries.

Libraries are seemingly a non-profit segment of the industry, but they use their experience, knowhow and skills to initiate new events and involve many other partners and industries through their regular activities. Creative libraries use talents, innovate activities, and create processes in interaction with customers and other partners, thus promoting cultural, social and economic changes, and contributing to innovative and evolutionary development of library and information services. Libraries constantly strive to prove themselves and attract attention with new, unconventional amenities, while their creative activities help them increase their importance and visibility. Library employees who animate and inspire customers are the developers of the creative library. The release of their creative potentials contributes to the evolutionary development of library and information services. To create interaction, librarians need to know and understand the modern methods of communication, publishing, media culture, digital technology, visual media, design and marketing.

Creativity and innovation are globally accepted as creators of national prosperity, and they are based on the creative potential of the individual. Faculties and other educational and cultural institutions play a key role in the economy based on knowledge. Libraries, as a central part of the cultural and creative industries, as well as educational, scientific and cultural institutions use the reaches of the digital and information age to devise creative models, provide innovative services, enable and support the modern way of teaching, scientific work and research, and promote smart, sustainable and inclusive development of the whole society based on knowledge and creativity.

## REFERENCES

Buljubašić I., Borić M., Hartmann I. (2016): *Impact of promotion on museum attendance as a part of creative industries*, Ekonomski vjesnik/Econviews, Vol.29, No.1, pp.103-124.

Commonwealth Department of Communications and the Arts(DCMS) (2001): *Creative Industries Mapping Document*,

[https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/183544/2001part1-foreword2001.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/183544/2001part1-foreword2001.pdf) (accessed 3 March 2016)

- Cova, B., Saucet, M. (2014): *Unconventional marketing: From guerrilla to consumer made*, Legal studies research paper series, University of San Diego, San Diego
- Ernst and Young (2014): *Creating growth Measuring cultural and creative markets in the EU*, [http://www.ey.com/Publication/vwLUAssets/Measuring\\_cultural\\_and\\_creative\\_markets\\_in\\_the\\_EU/\\$FILE/Creating-Growth.pdf](http://www.ey.com/Publication/vwLUAssets/Measuring_cultural_and_creative_markets_in_the_EU/$FILE/Creating-Growth.pdf) (accessed 12 February 2016)
- Ernst and Young (2015): *Cultural times The first global map of cultural and creative industries Creating growth Measuring cultural and creative markets in the EU* Accessed on: [http://www.ey.com/Publication/vwLUAssets/ey-cultural-times-2015/\\$FILE/ey-cultural-times-2015.pdf](http://www.ey.com/Publication/vwLUAssets/ey-cultural-times-2015/$FILE/ey-cultural-times-2015.pdf) (accessed 23 March 2015)
- European Bureau of Library, Information and Documentation Association (EBLIDA) (2015): *Expert opinion*, [http://www.eblida.org/HR\\_Knji%C5%BEnice%20%20E2%80%93%20kulturni%20vrhunici%20infor macija%20i%20nadahnuca\\_EGCIS\\_Position%20paper\\_\(Croatian\).pdf](http://www.eblida.org/HR_Knji%C5%BEnice%20%20E2%80%93%20kulturni%20vrhunici%20infor macija%20i%20nadahnuca_EGCIS_Position%20paper_(Croatian).pdf) (accessed 3 March 2016)
- European Commission (2010): *Green Paper: unlocking the potential of cultural and creative industries, COM, Brussels*
- European Commission (2014): *Creative Europe Programme, 2014-2020*, <http://ec.europa.eu/programmes/creative-europe/> (accessed 2 March 2016)
- Goldstein, S. (2016): *Poduzetništvo u keativnim industrijama*, Hrvatska sveučilišna naklada, Zagreb
- Hesmondhalgh, D., & Pratt, A. C. (2005): *Cultural industries and cultural policy*, International Journal of Cultural Policy, Vol.11, No.1, pp. 1-14. [http://www.andycpratt.info/andy\\_c\\_pratt/Research\\_Writing\\_\\_Downloads\\_files/Cultural%20industries%20and%20cultural%20policy.pdf](http://www.andycpratt.info/andy_c_pratt/Research_Writing__Downloads_files/Cultural%20industries%20and%20cultural%20policy.pdf) (accessed 13 December 2015)
- KEA (2006): *The Study on the Economy of Culture in Europe Brussels*, The European Commission, Directorate General for Education and Culture, [http://ec.europa.eu/culture/library/studies/cultural-economy\\_en.pdf](http://ec.europa.eu/culture/library/studies/cultural-economy_en.pdf) (accessed 2 March 2016)
- Mihaljević, J. (2015): *The new competency profile of academic libraries in the function of evaluation of scientific productivity*, Ekonomski vjesnik/Econviews, Vol. 28, No.2, pp. 535-549.
- Rašić Bakarić, I. at al. (2015): *Mapiranje kreativnih i kulturnih industrija u Republici Hrvatskoj*, <http://hkkki.eu/dokumenti/mapiranje.pdf> (accessed 2 March 2016)
- Švob-Đokić, N., Primorac, J. i Jurlin, K. (2008): *Kultura zaborava*, Naklada Jesenski i Turk i Hrvatsko sociološko društvo, Zagreb
- Throsby, D (2008): *The concentric circles model of the cultural industries*, Cultural trends, Vol. 17, No. 3, pp.147-164, [http://www.researchonline.mq.edu.au/vital/access/manager/Repository/mq:5448;jsessionid=321C9245CBC0F79D388A1CE5ABC814CB?fo=sm\\_subject%3A%22concentric+circles+model%22](http://www.researchonline.mq.edu.au/vital/access/manager/Repository/mq:5448;jsessionid=321C9245CBC0F79D388A1CE5ABC814CB?fo=sm_subject%3A%22concentric+circles+model%22) (accessed on 22 March 2016)
- Throsby, D., Zednik, A. (2007): *Employment and output for the cultural industries*, No.5, [http://www.econ.mq.edu.au/Econ\\_docs/research\\_papers2/2007\\_research\\_papers/MERP\\_5\\_2007\\_Throsby\\_Zednik\\_online.pdf](http://www.econ.mq.edu.au/Econ_docs/research_papers2/2007_research_papers/MERP_5_2007_Throsby_Zednik_online.pdf) (accessed 23 March 2015)

Tomašević, N. (2015): *Kreativna industrija i nakladništvo*, Naklada Ljevak, Zagreb  
Torrance, E. P. (1972): *Can we teach children to think creatively?* // The Journal of Creative Behavior, <http://files.eric.ed.gov/fulltext/ED061544.pdf> (accessed 05 September 2015)

UNCTAD(2008): *Creative Economy Report* [http://unctad.org/en/docs/ditc20082cer\\_en.pdf](http://unctad.org/en/docs/ditc20082cer_en.pdf) (accessed 3 March 2016)

UNESCO (2013): *Creative Economy Report, Widening local development pathway special edition*, <http://www.unesco.org/culture/pdf/creative-economy-report-2013.pdf> (accessed 3 March 2016)

Wang, B.(2011): *Creative industries - a summary of international research and comparisons*, Master Thesis. Supervisor: Hong Wu. Universidade de Østfold, Noruega, [http://prosjektexpo.hiof.no/expo11/H11I06/project/Creative%20industries \(Final%20project\).doc](http://prosjektexpo.hiof.no/expo11/H11I06/project/Creative%20industries%20(Final%20project).doc) (accessed 22 February 2016)



**Josipa Mijoč, Ph.D. Assistant Professor**  
Josip Juraj Strossmayer University of Osijek  
Faculty of Economics in Osijek  
jmijoc@efos.hr

**Jasna Horvat, Ph.D. Full Professor**  
Josip Juraj Strossmayer University of Osijek  
Faculty of Economics in Osijek  
jasna@efos.hr

**Ana Zrnić, mag. oec., student**  
Josip Juraj Strossmayer University of Osijek  
Faculty of Economics in Osijek  
ana.zrnic1@gmail.com

## **POPULARIZATION SYMPOSIA AS A NEW ORGANIZATIONAL PLATFORM FOR MAJOR EVENTS – THE CASE OF CREATIVE TREASURY**

### **POPULARIZACIJSKI SIMPOZIJI KAO NOVA ORGANIZACIJSKA PLATFORMA ZA VELIKA DOGAĐANJA – CASE OF KREATIVNA RIZNICA**

#### **ABSTRACT**

*Public institutions have the infrastructure that can be used as a part of the operational mission of public institutions to organize major events. By providing physical and human resources of public institutions (and public schools), it is possible to implement new forms of organizing major events, one of which is the popularization symposium. The aim of this paper is to explore the organizational and infrastructural prerequisites of popularization symposium as a new organizational platform, as well as to analyze its measurable effects. An example where the indicated paradigm has been analyzed refers to popularization symposium of cultural and creative industries (CCI) - industries that are currently in the process of formal institutionalization. Establishment of the sector of cultural and creative industries is stimulating professional and scientific thinking about vital points that are important for the structure of the industries. Confrontation of theory and practice organized by public institutions, which is open to the general public, is an innovative approach to establish a dialogue of heterogeneous participants in those emerging sectors. Regarding the above mentioned, the Creative Treasury - popularization symposium on cultural and creative industries, has been organized at the Faculty of Economics in Osijek in 2015 and 2016 as a kind of an experiment, which brought together creative professionals, amateurs and scientists. By organizing major events, public institution ceases to be just an educational institution and becomes an active factor of experience economy. In addition to its role as the unifying platform, popularization symposium in this paper is being evaluated as a new kind of organizational platform for major events, which sets the main hypothesis that this type of platform can be used for interaction between exhibitors and visitors, but also as a platform for research studies of heterogeneous participants.*

**Keywords:** *popularization symposium, cultural and creative industries (CCI), public institutions, experience economy, innovative practices, Creative Treasury*

## SAŽETAK

Javne institucije posjeduju infrastrukturu koju je radi misije poslovanja javnih institucija moguće koristiti i za organiziranje velikih događanja. Ustupanjem prostornih i kadrovskih resursa javnih institucija (tako i javnih učilišta) moguće je organizirati nove oblike organiziranja velikih događanja, a jedan od njih jest popularizacijski simpozij. Cilj rada istražiti je organizacijske i infrastrukturne pretpostavke popularizacijskog simpozija kao nove organizacijske platforme te analizirati njegove mjerljive učinke. Primjer na kojemu je navedena paradigma analizirana odnosi se na popularizacijski simpozij kulturne i kreativne industrije (KKI) – industrije koja se trenutačno nalazi u formalnom institucionaliziranju. Ustrojavanje sektora kulturne i kreativne industrije poticajno je za stručno i znanstveno promišljanje vitalnih točaka važnih za ustroj industrije. Sučeljavanje teorije i prakse otvoreno najširoj javnosti organizirano od strane javne institucije inovativni je pristup uspostavljanja dijaloga heterogenih dionika sektora u nastajanju. Na tragu navedenog 2015. i 2016. godine organizirana je Kreativna riznica - popularizacijski simpozij kulturne i kreativne industrije Ekonomskog fakulteta u Osijeku kao svojevrsni eksperiment kojim su okupljeni kreativni profesionalci, amateri i znanstvenici. Organiziranjem velikih događanja javna institucija prestaje biti samo obrazovna institucija i postaje aktivni čimbenik iskustvene ekonomije. Osim svoje uloge povezujuće platforme popularizacijski simpoziji u ovome radu evaluira se kao nova vrsta organizacijske platforme velikih događanja čime je postavljena i glavna hipoteza rada kako se ovakve vrste platformi mogu koristiti za interakciju izlagača i posjetitelja, ali i kao platforma za istraživačke studije heterogenih dionika.

**Ključne riječi:** *popularizacijski simpozij, kulturna i kreativna industrija (KKI), javna institucija, iskustvena ekonomija, inovativna praksa, Kreativna riznica*

### 1. Major events

Trends in the global economy are causing discussions about conceptualizing *cultural and creative industries* and *creative economy* and on the structure of these phenomena, for which the best solutions are still being sought. Despite the development of digital culture, which is increasingly creating digital platforms in order to communicate with stakeholders, organization of major events where participants of the same sector personally meet cannot be reduced, and thus becomes a phenomenon that is studied in different disciplines of social sciences. Thus, for example, scientific studies that analyze phenomena such as "conference tourism", "festivals", "fairs", "symposium", "seminars" or "major event" have been conducted (Yoon et al. 2010, Siksind 2010, Moeran and Pedersen 2011, Moscardo 2007, Hoyle 2002). Major events are a form of economic activity whose economic and cultural effects are measured by various indicators, some of which are audience range, benefits to customers and benefits to users. Observed on the basis of selected indicators, major events can be classified according to the classification offered by Siskind (2010) in Table 1.

**Table 1** *Types of events: comparison*

Type of event	Description	Audience Range	Benefits to Customer	Benefits to User	Disadvantages
<b>Trade show exhibit</b>	Participation in an existing trade show	Will attract all those interested in a common theme or industry	A wide range of exhibitors and activities under one roof	Being compared to the competition	Opportunities for attention and attendee time are limited

Type of event	Description	Audience Range	Benefits to Customer	Benefits to User	Disadvantages
<b>Truck tour</b>	A traveling event that is housed in a truck, van, or other motorized vehicle	Very specific since the display travels to their location	Can ask relevant questions at a relaxed pace; no travel time required	Control over audience quality	Very expensive; a great deal of preparation must be done to ensure audience quality
<b>Road shows</b>	A traveling event held in local rented facilities	Reach regional audiences	Attendance is often by appointment	Control over audience quality; can customize message for each audience	Can range from low to high budget, which also includes having personnel on the road
<b>Seminars</b>	An educational program focused on customers and prospects	Can focus on one element such as technical or administrative personnel	Can learn and network	Can learn and network	Run the risk of attendance being influenced by things beyond your control, i.e., weather, traffic, etc.
<b>Hospitality events</b>	An event that can be held on its own or in conjunction with other events; usually a social setting where customer relationships are enhanced	Has broad appeal, but can be tailored to suit a specific audience need	Great for networking among colleagues and industry personnel	Great for PR and networking	Tough to sell in a social situation; clients are often skeptical; the services of an independent event planner are often necessary
<b>Stand-alone</b>	These are opportunities in malls, lobbies, boardrooms, reception areas, etc.	Appeals to a very general audience base	A surprise addition to a normal shopping experience	An inexpensive way of getting value from a display that is not otherwise being used	Not well targeted; a shotgun approach
<b>Professional conferences</b>	An educationally oriented event focusing on one professional group	Very targeted delegates who are all part of one professional group	Great place to network, learn, and see relevant products and services	Tight control over audience quality	Exhibit traffic can be sporadic
<b>Private shows</b>	A trade show organized exclusively for one vendor or buying group	Can be very targeted as audience members are usually by invitation	Very focused shopping experience	Blocks out the competition	Large organizational responsibility that might be subcontracted if your event is large enough

Source: Siskind, 2010: 59-60

Table 1 does not list all types of major events. For example, festivals are not included, whose specificity stems from belonging to a specific sector of cultural and creative industries, and which are increasingly developing in their thematic and sectoral diversifications. One reason for the growth and development of festivals are the benefits that festivals offer to the local communities in

which they are primarily held and they affect the development of the local economy, but they also strengthen social cohesion within the community (Yoon et al. 2010).

Public institutions have the infrastructure that can be used to organize public events. For example, the educational system of public universities has a legitimate role in organizing major events, especially if the main theme of the major event is related to the scientific discipline of public institutions that are organizing the major event. By providing physical and human resources for the purpose of organizing major events, public colleges thus fulfill multiple roles: linking theory and practice, networking between the academic community and the real sector, accomplishing their socially responsible role by putting public infrastructure in the function of the main theme around which major events bring together the interested public. Thus observed, organized major events are an economic activity that takes place in a public space. Educational systems have also recognized this phenomenon and in various universities are beginning to educate "event managers" as individuals who are trained for "exhibit management" (Siskind 2010), i.e. to organize major events.

Pine and Gilmore (1998: 98) have already warned that economy is constantly developing and moving forward to modern and technological economy, i.e., in the direction of experience-based economy. The term "experience economy" is known as Pine and Gilmore's concept - a model for the final stage of economy in the age of transition and evolution of society and economy to post-modernity times, when economy moves from the stage of selling of goods and delivering of services to the final phase with an emphasis on staging experiences. In the experience economy makers of experience are named as stagers. In this sense stage means place and space, where they perform according to their roles. (Antonova 2015 – uspređiti sa Pine & 1998, 97–105).

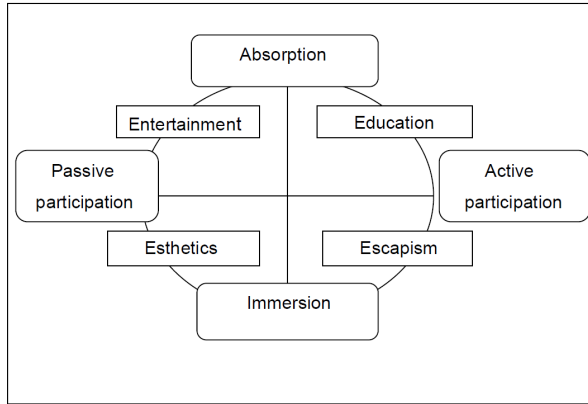
Based on the text above, authors are setting up the hypothesis that *the major events can be used as a platform for interaction between exhibitors and visitors in public institutions, as well as event organizers.*

## **2. Popularization symposium - organizational and infrastructural requirements**

Major events are related to the high financial investments, which are covered in several fundamental ways: a) participation fees for exhibitors, b) the sale of tickets to participants, c) funds received from public or private companies/institutions, d) sponsorship and/or donations. Financial requirements of major events are one of the distinguishing and classification criteria. Other distinctive criteria for major events are: event theme, ways of presenting content, open to the public, the target group of visitors, etc.

Antonova (2015) described the experience economy as "The successful experience and practice wakes up a wish and motivation to be more active and creative in interaction with all possible and suitable roles and to be succeeded in the communication with other participants."

**Figure 1** The 4 Es of Experience Realm, the Sweet Spot



Source: Antonova 2015: 10 (according to Pine & Gilmore 1999: 30)

Since popularization symposium includes a strong motivational component known as "popularization" (certain topics, phenomenon or dispute), it is recognized as a very specific method, which combines entertainment, educational, esthetic and escapist dimensions (Figure 1). Consequently, it is expected that both exhibitors and participants have a strong enough motivation for in-depth discussions on the main theme of the popularization symposium. Because of innovation that popularization symposium contains, authors are proposing a supplement of the Table 1 with *popularization symposium* as a new type of big-scale event.

**Table 2** Types of events – with supplement

Type of Event	Description	Audience Range	Benefits to Customer	Benefits to User	Disadvantages
Popularization symposium	<i>It combines features of seminars, hospitality events, stand-alone professional conferences and festivals. At least one organizer is a public institution</i>	<i>Amateurs, professionals, researchers, consumers of thematic content</i>	<i>Networking, public visibility, promote projects, ask questions, learn, certificates of exposure, entertainment, without registration fee</i>	<i>Education, entertainment, active participation, competition, the impact on thematic content, free tickets</i>	<i>Attendee time is limited, focus on thematic content, the arrival of visitors is not always controlled by the organizers (i.e. weather, other events at the same time, etc.)</i>

Source: authors

In relation to all the types of events clarified (Table 1) popularization symposium represents a major free event for exhibitors and visitors, and to invest in this kind of events is justified from the perspective of the organizers using their own resources. In this case, the question that can be faced is how can organizers benefit from such events? A major event (popularization symposium) that is organized by a public institution contributes to public institution exercising its role as a socially responsible institution, while joining the theory and practice of public institutions contributes to its pro-active role. At the same time, public institutions achieve visibility based on media releases that accompany major events, especially those of wider social importance.

## **2.1. Popularization symposium - definition**

Popularization symposium<sup>1</sup> is a major public event at which all stakeholders of thematic content are the exhibitors (amateurs, professionals, scientists, experts, representatives of institutions/organizations) and their presentations are open to the entire community. It follows that popularization symposium is a major free event that popularizes content of general social importance, and at least one organizer is a public institution. Because of its characteristics, popularization symposium brings together supply and demand of thematic content and the public institution, as the event organizer, plays the key role of a moderator. Social importance of the popularization symposium is confirmed by the number and type of sponsors - institutions of the public sector that support the content of the event with their name, based on the anticipated/achieved number of attending exhibitors and visitors.

Since popularization symposium is a meeting of interested stakeholders of a certain sector, it can be seen as a place where you meet "both" sides of a certain sector (providers of thematic content and its users). The following text explains the organizational and infrastructural features of popularization symposia.

### **2.1.1. Organizing a popularization symposium**

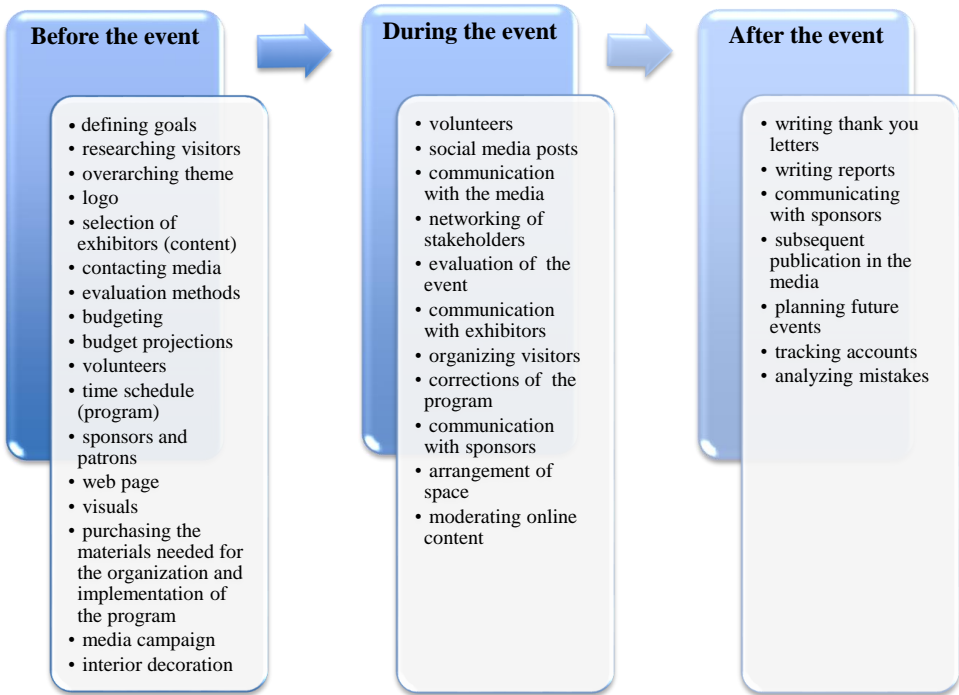
Popularization symposium, according to its definition, is a major free event for popularization of content of general social importance. In order to implement a successful event in terms of realization of the objectives, it is necessary to systematically organize and manage the event.

The organization of the event starts from the initial point set by the organizers, i.e., public institution as the driver of the event. The organizers collaborate with partners, gathering volunteers, finding adequate funds, sponsors and donors, conceiving the program involving exhibitors and participants in order to offer high quality cultural and creative content to the target group (visitors). One person cannot organize a popularization symposium on their own and it is necessary to build a network of associates who will help with the organization of the event. In addition, organizational activities must be planned in accordance with the background activities necessary for the realization of the major event. The authors of this paper present the key points of workflow activities necessary for the realization of a popularization symposium through Figure 2.

---

<sup>1</sup> The symposium is a meeting of experts to discuss about a particular theme. (<http://www.hrleksikon.info/definicija/simpozij.html>, 5.5.2016.)

*Figure 2 Flow chart of activities necessary for the realization of popularization symposium*



*Source: authors*

Although each board<sup>2</sup> is doing its own part of the work, they must act together to ensure that all organizational activities are functioning since they are interconnected. Through joint action, boards achieve synergy effects, which are reflected through the target group, but also to all segments of the popularization symposium. Before the major event, it is necessary to organize a team of volunteers who will work on organizational and promotional activities of the event. The number of volunteers depends on the scope and complexity of the event. The entire organizational team should follow the established goal, which is primarily the success of the major event. As the event is organized for visitors, it is important to research their structure and preferences with respect to cultural and creative content. All the contents are gathered under the main theme, and they need to be current and attractive to both exhibitors and visitors. The selection of exhibitors is conducted by organizers, on the basis of previous exhibitors' application, in accordance with the criteria that have been defined by the organizers. The financial resources are necessary for the implementation of events and organizers have planned income and expenses included in the budget. After it has been authorized, the program will be published, as well as the entire event schedule. The website of the major event must be transparent and informative, and filled with amenities of the event. Sponsors

<sup>2</sup> Boards are formed depending on the needs and complexity of major events.

and supporters are those who support the event through funding, donations or promotion. Visual content presents the major event to the general public through leaflets, posters and other visual materials, and in this respect it is important to be unique. The purchase of needed materials refers to all the materials and resources needed for the project. Media campaigns are constantly maintained before and during major events. Arrangement of space creates an atmosphere at the event and represents the institution in which the major event takes place.

During the major event, implementation of activities by volunteers and the contents of the events are monitored. Media campaign and the website of the major event are continuously updated. Visitors can consume the prepared food and beverages served at the event. The evaluation of the content and corrections of the layout are also continuously updated.

After completion of individual content, each exhibitor is given recognition and certificates for the held presentation. During and after the major event, organizers are analyzing gaps and producing reports with the main features of the major event and with the accomplished goals. Finally, all bills and expenses of the event are settled, and the paid items are analyzed because that is the starting point for events that have recurring character.

### 2.1.2. Digital platforms for organizing major free events

Major free events can use free digital platforms for digitized management of the organization of major free events. The biggest advantage of these platforms is the possibility of direct contact with the (registered) visitors and advertising of events through social networks and the use of other forms of digital promotion of the advertised events. Some of the advantages and disadvantages of such platforms are listed in Table 3.

**Table 3** Comparing online registration systems for organizing major free events

	<b>Eventzilla</b>	<b>Eventbrite</b>	<b>TicketLeap</b>
<b>Fees</b>	\$1 per attendee for paid events. Free for free events.	For paid events, there is a charge of 2.5 percent of the ticket price plus \$.99 per registration. Free for free events.	Paid events cost 2 percent of the ticket price plus a \$1 online ticketing fee and a 3 percent credit card processing fee. Payment is sent via check or direct deposit three days after the event.
<b>Customization</b>	Users can upload a logo and event flyer to the registration page	It has a lot of options for customizing event pages. There are 15 preloaded themes and event organizers can choose their own colors.	The only customization available is the ability to change the background of the registration page.
<b>Social Sharing</b>	Yes	Yes	Yes
<b>Attendee Check in</b>	Attendees receive a QR code once they register, which the organizer can scan at the door to check them into the event.	Users can check attendees into the event by printing out a guest list, using the free entry manager app or scanning QR coded tickets.	Organizers can check in attendees by scanning a QR code. They can also use an online box office feature although an Internet connection is required.



	Eventzilla	Eventbrite	TicketLeap
Promotion	Event organizers can embed a ticketing widget into their websites or blogs.	It has tools that allow organizers to easily promote their events on Facebook or on a separate website via a registration button or a ticketing widget. Individualized tracing links can be set up for distribution to different marketing outlets allowing users to track how each is performing.	It allows users to create unique tracking codes to track the origin of ticket sales and registrations. Organizers can track how many social interactions their registration pages generate and whether the interactions generate sales. Also allows users to embed an event into Facebook.
Advantages	It is the least expensive option of the three presented. It's simple to set up and attendee payments go directly into the organizer's PayPal account.	It can customize the event page to match the look and feel of the brand. It allows users to accept payments and sell tickets on site.	The solution tracks which marketing promotions are working via unique tracking codes and social interaction tracking, allowing event promoters to reward the most active supporters.
Disadvantages	The platform has very little ability to customize the look and feel of the event registration page.	The service fees are high in comparison to other solutions and users don't receive payments until after the event is over.	Very little customization is available to customize an event registration page. It disburses payment to event organizers after the event is over.

Source: developed by the authors according to the data available on the website <http://www.eventtechbrief.com/page.cfm/action=library/libID=3/libEntryID=23> (accessed on May 5, 2016)

After examining the previous table it can be concluded that free platforms for organizing major free events vary according to the following basic characteristics: fees, customization, social sharing, attendee check-in and promotion.

Contacting visitors before and after the major event is the advantage arising from the possibility of a register that has been made from digital contacts (e-mail, Facebook or other digital identity) of visitors that have already participated in the popularization symposium of the same organizers. In this way, the event organizers can conduct research visitors' viewpoints, in which the sample frame is made of participants that are familiar with the main theme of the popularization symposium, or, with a specific topic of the main theme or the event itself.

### 3. Popularization symposium - the case of Creative Treasury

Popularization symposium *Creative Treasury* was used as an example of a major event that has the potential of innovative cultural and creative practice. *Creative Treasury* is designed as a free platform that represents a meeting point of theoreticians and practitioners in the domain of *cultural and creative sectors*, which can combine their strengths and resources, and using scientific moderation, a new paradigm can be opened. *Creative Treasury* each year sets a new main theme, where in the first year (2015: Cultural and creative industries in the Republic of Croatia), the main theme was set as general in order to familiarize visitors with the concept of a new industry. In 2016 the main theme was *Socially responsible creativity* while the main theme for 2017 has been announced as *Chemistry of creative industries*. *Creative Treasury* has been organized by the higher education public institution Faculty of Economics in Osijek, which as a scientific and educational institution opens new ways of thinking about cultural and creative industries. Partners of this project are other public institutions and the non-profit sector.

*Creative Treasury* ensures the creation of a network of contacts of all the presented representatives of cultural and creative institutions, stakeholders of all components of cultural and creative industries, academic institutions, art and trade associations, individual artists and media. *Creative Treasury* is opened to the public and it is divided into three major parts. *The first part* covers all professional and scientific lectures/presentations; *the second part* contains cultural and creative performances (theater performances, exhibitions, film screenings, book presentations, literary discussions, concerts), and *the third part* includes round tables, forums and workshops.

Although *Creative Treasury* focuses on visitors within younger age groups (students and high school students), it is intended for the wider community and all age groups. According to data from 2015 and 2016 provided by the *Creative Treasury*, there have been different participants, such as employed, self-employed, unemployed, pensioners, members of cultural and creative organizations and all formal and informal participants that are representatives of the future of cultural and creative industries, businessmen, private entrepreneurs.

The exhibitors included representatives of various NGOs, artists, singers, photographers, actors, cultural employees, fashion designers, creative amateurs, writers, filmmakers and actors of all 12 components of cultural and creative industries of Croatia, as well as experts and scholars who lectured on topics related to cultural and creative industry.

Using the Eventbrite system for major events (Table 3), the organizers had control over the number of registered visitors at all times. Statistical analysis of attendance was conducted upon completion of the *Creative Treasury 2016*, which is shown in Table 4.

**Table 4** Analysis of visits to the popularization symposium *Creative Treasury (CT)*

Date	The day of CT	Number of events	Number of visitors	The average number of visitors per event
April 20, 2016	First day	25	825	33
April 21, 2016	Second day	32	829	26
April 22, 2016	Third day	26	1195	48
April 23, 2016	Fourth day (workshops)	10	155	16
<b>Total</b>	<b>Four days of CT</b>	<b>93*</b>	<b>3004</b>	-

\*The number varies in relation to the total number of events, since the 93 events had registered tickets as a means of event attendance. Tickets were not issued for exhibitions and video projections that were opened during every day of the major event.

Source: authors

More than 50 media publications (online, print and audiovisual media) contributed to public visibility of the *Creative Treasury 2016* as a major event. All public institutions involved in the implementation of the major event benefit from the synergistic effects of such public visibility (organizers: secondary and higher education institutions, as well as sponsors and partners: public administration institutions and the private sector), as well as the overarching main theme problematized in the popularization symposium about *cultural and creative industries*. *Creative Treasury 2016* contributes to establishing cultural and creative content in eastern Croatia and to active participation of younger age groups, building their habits related to cultural and creative content.

#### 4. Conclusion

Analysis of the case of the major event - *Creative Treasury* has confirmed the set definition, according to which public institutions should be organizers of popularization symposia as major free events, where socially important issues can be opened and examined, thereby contributing to thoughtful and moderated dialogue of all the stakeholders. This opens up a new paradigm, and public institutions proactively implement their socially responsible role.

Popularization symposium is an innovative practice in organizing major events, which have at least one public institution as an organizer, which provides its infrastructure. The assumption of organizing popularization symposium includes knowledge about the organization of other major events with all the qualities of experience economy, but with a need for innovation that this kind of symposium requires. Current thematic main contents guarantee a broad response of exhibitors and audience and the interest of all segments of society. The visibility that public institutions get through implementation of the popularization symposium contributes to their reputation.

Given that the paper presents the case of *Creative Treasury* - popularization symposium of cultural and creative industries at the Faculty of Economics in Osijek as a popularization symposium that is actually a meeting point of interested stakeholders of a specific sector, brings the recommendations for future research. In fact, this major event can be seen as a platform where participants from a specific sector are networking, organizing and shaping the future of their own activities, and employees of public universities get the opportunity to gather problems from the real sector, and articulate them in hypotheses that are important for practice, researching them using scientific methodology. In this way, organizers of major events can carry out primary research about stakeholders of assembled sectors in which the sample frame consists of respondents familiar with the main theme of the popularization symposium.

#### REFERENCES

- Antonova, S. (2015). *Carnival concept in the light of successful planning of innovative events in Finland*. Thesis – Travel management Programme. Haaga-Helia: University of Applied Sciences. <https://serviceskills.com.au/sites/default/files/files/CI%20Pages/Volume3-EventsTourismUnitsFinalNovember2015.pdf> (accessed on May, 5 2016)
- Devney, D. C. (2001). *Organizing special events and conferences: A practical guide for busy volunteers and staff*. Pineapple Press Inc. [https://books.google.hr/books?hl=hr&lr=&id=D3RfQtafXB0C&oi=fnd&pg=PP9&dq=organizing+events&ots=Mj6iHeFnQF&sig=M4OpY8CLbikLnmDcrk4\\_f9wDtXQ&redir\\_esc=y#v=onepage&q=organizing%20events&f=false](https://books.google.hr/books?hl=hr&lr=&id=D3RfQtafXB0C&oi=fnd&pg=PP9&dq=organizing+events&ots=Mj6iHeFnQF&sig=M4OpY8CLbikLnmDcrk4_f9wDtXQ&redir_esc=y#v=onepage&q=organizing%20events&f=false) (accessed on May 6, 2016)
- Hoyle, L. H. (2002). *Event marketing: How to successfully promote events, festivals, conventions, and expositions* (Vol. 2). John Wiley & Sons.
- Hrvatski leksikon: <http://www.hrleksikon.info/definicija/simpozij.html> (accessed on May 6, 2016)
- Moeran, B., & Pedersen, J. S. (Eds.). (2011). *Negotiating values in the creative industries: Fairs, festivals and competitive events*. Cambridge University Press.
- Moscardo, G. (2007). *Analyzing the role of festivals and events in regional development*. *Event Management*, 11(1-2), 23-32.

Siskind, B. (2010). *Powerful Exhibit Marketing: The Complete Guide to Successful Trade Shows, Conferences, and Consumer Shows*. John Wiley & Sons.

Yoon, Y. S., Lee, J. S., & Lee, C. K. (2010). *Measuring festival quality and value affecting visitors' satisfaction and loyalty using a structural approach*. *International Journal of Hospitality Management*, 29(2), 335-342.

<http://www.eventtechbrief.com/page.cfm/action=library/libID=3/libEntryID=23> (accessed on May 6, 2016)

**Eugenija Nemeth, MSc in International Management**

Columna Ltd.

Zagrebačka 4, 32100 Vinkovci

Phone: 00385098217499

E-mail address: columna@columna.hr

**Vladimir Grebenar, univ. spec. oec.**

Vinkoprom Ltd.

Z. Sremca 47, 32100 Vinkovci

Phone: 00385994394044

E-mail address: vladimir.grebenar@gmail.com

**Josip Britvić, univ. spec. oec.**

Top Consult Group Ltd.

M.P.Miškine 88, 48363 P.Sesvete, Croatia

Phone: + 385 99 2897 601

E-mail adress: josip.britvic@top-consult-grupa.hr

## **SEGMENTS PROFITABILITY ANALYSIS – MACS SYSTEM**

## **POSLOVNA UČINKOVITOST SEGMENTATA - MACS SUSTAV**

### **ABSTRACT**

*Performance management systems (the MACS<sup>1</sup> or responsibility-accounting system) generates and uses information that helps decision makers assess whether an organization is achieving its objectives. Usual accounting systems established in companies are financial subsystems in accounting department. In these times when changes in business are very fast, only reliable information can hamper decision-making that supports long-term profitability and positive business results. The MACS is one of the basic tools for strategic management which is the principal process which is closely related to operational management. The main goal of this paper is to analyse the elements of the MACS and to display the aim of the MACS project in an organization. The second goal of this paper is to analyse the influence of the MACS on the key business processes such as strategic and operative management, production and sales, risk management, HRM<sup>2</sup>. In the paper authors analysed the influence of the MACS on the improvement of marketing metrics and the continuous improvement of process quality.*

**Keywords:** MACS, Accounting, Performance management Systems

### **SAŽETAK**

*Sustav mjerenja poslovne učinkovitosti (MACS ili sustav računovodstva odgovornosti) generira informacije koje koriste donositelji odluka za kontrolu izvršavanja poslovnih planova i ostvarenja ciljeva. Uobičajeni računovodstveni sustavi uspostavljeni u tvrtkama su financijski podsustavi u*

---

<sup>1</sup> MACS - Managerial Accounting and Control System

<sup>2</sup> HRM – Human Resource Management

računovodstvenom odjelu. U današnje vrijeme kada su promjene u poslovanju brze, jedino pouzdane informacije mogu pomoći u odlučivanju koje može rezultirati dugotrajnom profitabilnosti i pozitivnim poslovnim rezultatima. MACS sustav je jedan od temeljnih alata za strateško upravljanje čiji je glavni proces usko povezan sa poslovnim upravljanjem. Glavni cilj ovoga rada je analizirati elemente MACS-a te ciljeve kod implementacije MACS-a u organizaciji. Drugi cilj rada je analizirati utjecaj MACS-a na ključne poslovne procese kao što su strateško i poslovno upravljanje, proizvodnja i prodaja, upravljanje rizikom i ljudski resursi. U radu su autori analizirali utjecaj MACS-a na poboljšanje marketinške metrike i stalnog poboljšanja procesa kvalitete u organizaciji.

**Ključne riječi:** MACS, Računovodstvo, Sustav upravljanja performansama

## 1. From Accounting to a Performance Measurement System

Accounting is used to communicate business data to both external stakeholders (i.e. financial accounting) and internal stakeholders (i.e. managerial accounting). Companies are legally obliged to establish financial accounting systems, which are subsystems in accounting. Despite being legally binding to companies, managerial accounting is of greater importance to the companies with integrated managerial systems (i.e. The Six-Stage Management System by Kaplan-Norton). A lack of timely and reliable information can hamper decision-making that supports long-term profitability and positive business results. The purpose of managerial accounting is to record business activities and distribute information to internal stakeholders. To that end, it has to be established as a system for recording, processing, controlling, analysing, and distributing business decisions to decision makers. The companies founded on a firm organizational structure with many segments are organized on the principle of responsibility. Therefore, every segment responsible for particular results is called a 'responsibility centre'. *'A responsibility center is a part, segment, or subunit of an organization whose manager is accountable for a specified set of activities. The higher the manager's level, the broader the responsibility center and the larger the number of his or her subordinates. Responsibility accounting is a system that measures the plans, budgets, actions, and actual results of each responsibility center.'*(Horngren, Datar, Rajan, 2012: 199).

There are four possible responsibility centers:

1. Cost center – the manager is responsible only for its costs
2. Revenue center – the manager is responsible only for its revenues
3. Profit center – the manager is responsible for its costs as well as revenues
4. Investment center – the manager is responsible for investments, costs, and revenues

Managerial accounting is called 'responsibility accounting' in the companies with multiple segments whose organization is based on responsibility centers. *'Responsibility accounting is a system used for measuring the planned and achieved results, budgets, and activities of each responsibility center.'* (Horngren, Datar, Rajan, 2012: 199).

Responsibility accounting has the following features:

- a) It is synonymous to managerial accounting used by companies based on responsibility centers.
- b) It measures and controls business results.
- c) It is established as a system within a wider framework of an accounting system
- d) It provides business information to decision makers

Responsibility accounting as a system of managerial accounting is meaningful and important provided that it is highly integrated in the management system that its organizational design lends itself to a controlled execution of the business strategy and operational plans. Additionally, it has to be able to provide information on business performance in shorter time intervals. This system of managerial accounting is a framework for a 'Managerial, Accounting, and Control System' (MACS). *"Managerial accountants often use the responsibility-accounting system to motivate actions considered desirable by upper-level management."* (Hilton, R. 2009: 511). In other words, a MACS is a responsibility-accounting system.

*'Broadly speaking, a MACS generates and uses information that helps decision makers assess whether an organization is achieving its objectives. The term control in management accounting and control refers to the set of procedures, tools, performance measures, systems, and incentives that organizations use to guide and motivate all employees to achieve organizational objectives.'* (Atkinson, Kaplan, Matsumura and Yung, 2012: 342). The MACS is the central system of managerial accounting. Furthermore, it is a central system of an integrated managerial system in strategically managed companies which measures the achievement of strategic objectives and operational plans. A lack of MACS' integration into the strategic and operational management systems has a negative impact on the ability of strategic decision makers, managerial accountants, and the company's management in general to monitor the alignment of the company and its segments to the business plans in a timely and accurate manner. The MACS is based on the Plan-Do-Check-Act theory (PDCA) since it controls the execution of strategic and operational plans. A well-designed MACS fulfills its objective.

*' Technical factors fall into two categories:*

- (1) the relevance of the information generated and*
- (2) the scope of the system.'* (Atkinson, Kaplan, Matsumura and Yung, 2012: 342).

According to Atkinson et al., the importance of information is based on the following:

- a) *Accuracy*
- b) *Proper timing*
- c) *Consistency*
- d) *Flexibility*

Accuracy defines the capacity of a MACS, i.e. the higher the requirements regarding accuracy, proper timing, consistency, and flexibility, the bigger the need for a high-capacity system. Total Quality Management requires a performance management system capable of accounting for all processes based on the set criteria. MACS' designers face a big challenge when building an integrated system, which is not possible without a prior detailed recording of all organizational processes. Particular issues appear if the organizational structure lacks firm logical links among organizational units. In other words, if the organization cannot clearly determine the responsibilities regarding the outputs of certain processes, then difficulties are bound to surface as concerns the establishment of the MACS. In the case of companies struggling with organizational issues, it is not easy to implement the MACS. Moreover, such a system is not capable of producing completely relevant data. There is a close connection between organizational structure and responsibility management. The implementation of the latter can be executed only in the case where a solid organizational structure exists. *Organization structure is an arrangement of lines of responsibility within the organization.* "(Horngren, Datar, Rajan, 2012: 199). In a well- established organizational structure, organizational units become responsibility centers, which is in turn contingent on the TQM approach to organizational process management. There is another conspicuous aspect of the management of responsibility centers from the perspective of cost accounting. A key question in designing a MACS and responsibility

accounting is the ability to control costs and revenue that occur at responsibility centers. Strategy builders, managerial accountants, and MACS designers have to question the actual and potential role of center managers in revenue control and the cost of a business segment. This is of one the most complex issues and challenges in the design of the criteria for the performance measurement of managers. *“Some organizations use performance reports that distinguish between controllable and uncontrollable cost or revenues... Identifying costs as controllable or uncontrollable is not always easy.” (Hilton, R. 2009: 510).* Reports on business performance of responsibility centers are most often segmented income statements for the segments of managerial responsibility. *‘Segmented reporting refers to the preparation of accounting reports by segment and for the organization as a whole. Many organizations prepare segmented income statements, which show the income for major segments and for the entire enterprise.’ (Hilton, R. 2009: 511).*

## **2. The Elements of the MACS**

Design and implementation of a MACS is a complex and demanding endeavour. Managerial accountants have to design a MACS that will render correct data. In the opposite case, it could lead to the so-called 'blame' effect. *‘When properly used, a responsibility-accounting system does not emphasize blame’ (Hilton, R. 2009: 510).* Incorrect data could first mislead those who rely on them, and second to either unjust remuneration or blaming managers of particular responsibility centers. In both cases, either a responsibility center manager or a person in charge will be made responsible for the sustainability of the MACS. The most sensitive issue during the design process is, therefore, the validity of the data produced by the MACS. In order to decrease the risk of incorrect input variables and output data, the final result should be controlled through a project approach defined in the ethical requirements for the MACS introduction, i.e. the introduction of the MACS has to be a project task. Information accuracy and proper timing set high-quality standards for system functions and sustainability.

The following four MACS elements should be designed using a project approach:

1. Designed and installed software application
2. Available and installed computer hardware
3. Designed procedures of quality systems to ensure its sustainability
4. Employees trained on the importance of managerial accounting in decision making and the role of the quality system in supporting the sustainability of the MACS

**The aim of the MACS project in an organization can be defined as follows:**

**'The establishment of a consistent and flexible system capable of providing reliable performance measurements of key processes, business segments, the execution of business strategy, and support to decision making regarding every business process.'**

- a) Consistent – its structure provides a unique framework applicable to every organizational unit
- b) Flexible – designed to enable the use of information and their further processing based on specific features of an organizational unit
- c) MACS System – it is a managerial, accounting, and control system, as well as an accounting subsystem, and a management of information systems
- d) Reliable measurements – measurements are precise, instant, and accurate after processing compared to individual data processing that can render mistakes
- e) Shorter intervals – intervals shorter than a year, monthly, quarterly, and cumulative intervals



- f) Key business processes – operational processes, all financial and marketing processes that are supportive of operational processes
- g) Business segments – part of a business organization
- h) Supportive of processes – MACS is a comprehensive system and it encompasses all business activities. An analysis of MACS reports on key processes facilitates the availability of the most relevant data needed for decision making.

### **3. The influence of the MACS on key business processes**

#### **3.1. Strategic and operative management**

According to the Balanced Scorecard Model, strategic management is a process of continuous planning, execution, control, and guidance on strategic initiatives. *"The Balanced Scorecard measures organizational performance across four different but linked perspectives that are derived from the organization's mission, vision, and strategy."* (Atkinson, Kaplan, Matsumura and Yung. 2012: 19). The purpose of the MACS is to produce reports on the business efficiency of particular segments and their cumulative sum. This kind of data is necessary during the phase of strategic and operational planning. In terms of strategic planning, these data can be used for two processes of strategic planning.

1. Establishing operational and project plans within the present business strategy
2. Preparing a new business strategy.

#### **3.2. Production and sales**

The core business of manufacturing companies is production, whereas trading companies operate as wholesale and/or retail companies. The MACS extrinsically boosts motivation of the working environment which is supportive of sales growth and overall better results. In turn, it facilitates fair incentives and remuneration. The purpose of the MACS is to measure the realization of manufacture and sales processes for particular business segments and provide an objective image of the achieved results compared to the plan. An extrinsic environment increases sales activities, which results in a higher sales volume and in turn requires a larger production volume, as well as increased sales, and finally the achievement of the company's vision. The MACS measures sales realization for business segments and provides an objective picture of the achieved result compared to the plan. It can directly improve sales because it controls and measures the performance of the sales staff responsible for the management of operational sales processes. The anticipated positive effects are a decrease of write-offs, i.e. a more efficient receivables collection, a reduction of operational sales costs through improved control, and sales growth stemming from extrinsically motivating factors.

#### **3.3. Risk management**

Business decision making has to account for potential events and their impact on the plan. This potential event can be positive or negative. Risk management pays closer attention to potentially negative events. They are closely scrutinized within the framework of investment and operational decisions such as the planning of trading goods and the types and quantities which should be purchased based on operational plans for the following periods. Risk evaluation is performed using both qualitative and quantitative risk analysis. Multi-segment companies use IT as a basis for business decisions, which pertains especially to investment decisions. They should be made using managerial accounting and encompassing all costs and revenues of a segment, and not the whole organization. *"Inaccurate information is not relevant or useful for decision making because it is misleading. Designers have to develop a system that leads to the most accurate information possible, subject to a*

*cost-benefit trade-off.*' (Atkinson, Kaplan, Matsumura and Yung 2012: 343). Therefore, if information is incorrect, decisions are not reliable.

Apart from strategic decisions, operational management decisions have inherent risks which require quantitative risk analysis.

### **3.4. Human resource management**

MACS is a crucial factor for an extrinsically motivating work environment. Extrinsic motivation supports improved work efficiency in the case of an existing system for incentives and acknowledgment of work results. However, the incentive system is not sustainable without a MACS that generates information on work performance. The introduction of the system for work performance measurement changes organizational culture. „*The focus of control changes from telling people what to do to asking employees to use their skills and delegated authority to do their best to help the organization achieve its stated objectives.*“ (Atkinson, Kaplan, Matsumura and Yung 2012: 364).

### **3.5. Marketing metrics**

The MACS directly improves decision-making processes related to marketing through the indicators of marketing metrics pertaining to a business segment and customer. There are multiple indicators such as the following: the percentage of turnover growth per customer; the percentage of customer profitability; costs per customer (direct and indirect); the percentage of market share in a market segment; the number of new customers per a manager of key customers, etc. Overall, these indicators are either not readily available or remain inaccessible without the responsibility accounting system. The MACS controls the execution of marketing processes and achievement of marketing goals, which can be said to be one of its major goals.

### **3.6. Continuous improvement of process quality**

MACS measures all organizational process, which implies that a lack of metrics and process measurement results there are no basic conditions for process improvement. The basic PDCA theory for the improvement of process quality would not be possible from the very beginning, because goals could not be defined without a prior analysis within the 'Plan'. Additionally, it is not possible to control and monitor these processes without a system for performance measurement. This can result in a high level of organizational risk stemming from a low-quality informational foundation. Companies like those cannot make improvements or innovate.

## **4. Conclusion**

Performance management systems (the MACS or responsibility-accounting system) are the central systems of strategically managed companies. Strategic management is the principal process which should be closely related to operational management and is a compound of day-to-day operational processes. These processes have to be planned, executed, controlled, and managed. The purpose of a performance measurement system is to generate accurate and timely data needed for process planning and control. Performance measurement systems are of critical importance for all organizations that strive to establish and maintain a motivating work environment. Additionally, these systems have to provide objective data about the results of particular segments in short time periods. Furthermore, they provide powerful competitive advantage provided that they are integrated into strategic and

operational management system. Finally, each business activity can be measured in the case when responsibility accounting is implemented in all organizational parts.

## REFERENCES

- Andersen A., (1999). *Strategic Cost Management. Theory of Constraints*. Institute of Management Accountants. Dostupno na: <http://www.imanet.org/PDFs/Public/Research/SMA/Theory%20of%20Constraints%20TOC.pdf> (pristup 12.2.2014.).
- Atkinson A. A., Kaplan R. S., Matsumura E. M., Young S. M. (2012). *Management Accounting*. New Jersey: Pearsons Education.
- Belak, V. (1995) *Menadžersko računovodstvo*. Zagreb, RRIFplus.
- Belak, V. (1994) *Profitni centri i interna ekonomija poduzeća*. Zagreb, RRIFplus.
- Belak, V. i drugi. (2009). *Računovodstvo proizvodnje. II. dopunjeno izdanje*. Zagreb, RRIFplus.
- Belak, V., Brkanić, V. i dr. (2000). *Računovodstvo poduzetnika*. Zagreb: RRIF.
- Belak, V. (ur) (2011). *Računovodstvo i menadžment. Zbornik radova, svezak I – znanstveni radovi*. Zagreb: M.A.K. Golden.
- Bendeković, J. i drugi (1993). *Planiranje investicijskih projekata*. Zagreb: Ekonomski institut Zagreb.
- Bendeković, J. i drugi (2007). *Priprema i ocjena investicijskih projekata*. Zagreb: Foip biblioteka.
- Bochenski, J. (1997). *Uvod u filozofsko mišljenje*. Split: Verbum.
- Chapman, C., Hopwood, A. i Shields, M. (ur) (2007): *Handbook of Management Accounting Research – volume 1*. Amsterdam: Elsevier.
- Chapman, C., Hopwood, A. i Shields, M. (ur) (2007): *Handbook of Management Accounting Research – volume 2*. Amsterdam: Elsevier.
- Dana, L. P., (2011). *World Encyclopedia of Entrepreneurship*. Northampton USA: Edward Elgar Publishing Limited.
- Čulo, K., (2010). *Ekonomika investicijskih projekata*. Osijek: Građevinski fakultet Osijek.
- Garrison, R. i Noreen, E. (2000). *Managerial Accounting*. New York: McGraw-Hill Higher Education.
- Gervais, M., Levant, Y., Ducrocq, D. (2010). *Time-Driven Activity-Based Costing (TDABC): An Initial Appraisal through a Longitudinal Case Study*. Jamar. Dostupno na: [http://www.cmawebline.org/joomla4/images/stories/JAMAR\\_2010\\_Summer/JAMARv8.2-TDABC.pdf](http://www.cmawebline.org/joomla4/images/stories/JAMAR_2010_Summer/JAMARv8.2-TDABC.pdf) (pristup: 11.3.2014.).

Gilbert, S. J., Kaplan, R. S. (2007). *Adding Time to Activity-Based Costing*. Harward Business School Publishing. Dostupno na: <http://hbswk.hbs.edu/pdf/item/5657.pdf> (pristup 15.1.2014.).

Grgo, R. (ur) (2010). *Računovodstvo, financije i porezi u praksi*. Split. Udruga računovođa i financijskih djelatnika.

Goldratt E. M., Cox, J. (2012). *The Goal. A Process of Ongoing Improvement*. Great Barrington. The Nort River Press Publishing Corporation.

Hilton, R. (2009). *Managerial Accounting: Creating Value in a Dynamic Business Environment*. New York: McGraw-Hill Irwin.

Hornngren, C. T., Harrison, W. T., Oliver, M. S. (2012). *Financial & Managerial Accounting*. New Jersey: Pearsons Education.

Hornngren, C. T., Datar, M. S., Rajan, M. V. (2012). *Cost Accounting*. New Jersey: Pearsons Education.

Kaplan, R.S. (2007). *The Demise of Cost and Profit Centers*. Harward Business School Publishing. Dostupno na: [http://www.bscoll.se/\\_wcm/documents/Strategic%20alignment.pdf](http://www.bscoll.se/_wcm/documents/Strategic%20alignment.pdf) (pristup: 14.3.2014.)

Kaplan, R. S., Anderson R. S., (2004). *Time-Driven Activity-Based Costing*. Harward Business Review. Dostupno na: <https://fenix.tecnico.ulisboa.pt/downloadFile/3779580640677/HBR-Time-Driven%20Activity-Based%20Costing.pdf> (pristup: 1.12.2013.).

Kaplan, R. S., Norton, D. (2008). *The Execution Premium. Linking Strategy to Operations for Competitive Advantage*. Harward Business School Publishing Corporation.

Kaplan, R. S., Norton, D. (2006). *How to Implement a New Strategy Without Disrupting Your Organization*. Harward Business Review. Dostupno na: [http://www.theexecutionmaximizer.com/uploads/Attachments/HBR\\_Implementing\\_New\\_Strategy\\_Without\\_Disrupting.pdf](http://www.theexecutionmaximizer.com/uploads/Attachments/HBR_Implementing_New_Strategy_Without_Disrupting.pdf) (pristup: 1.3.2014.).

Kaplan, R. S., Norton, D. (2008). *Integrating Strategy Planning and Operational Execution: Six Stage System*. Harward Business School Publishing. Dostupno na: <http://www.insightfromhbr.org/0608bsr/bsrmayjune08.pdf> (pristup 2.3.2014.).

Kaplan, R. S., Norton, D. (2007). *Using the Balanced Scorecard as a Strategic Management System*. Dostupno na: <https://labcalidad.files.wordpress.com/2013/02/oil.pdf> (pristup: 15.2.2014.).

Karić, M. (2006). *Ekonomika poduzeća*. Osijek: Ekonomski fakultet u Osijeku.

Karić, M. (2008). *Upravljanje troškovima*. Osijek: Ekonomski fakultet u Osijeku.

Knez-Riedl, J. (2007). *Benchmarking and Controlling*. Rijeka: Ekonomski fakultet Rijeka.

Kotler, P., Keller, K. (2012). *Upravljanje marketingom*. Upper Saddle River: Prentice Hall.

*Odluka o objavljivanju Međunarodnog standarda financijskog izvještavanja 8 NN 29/09, (2009).* Zagreb: Narodne novine.

Osmanagić, B. (1998). *Kontroling – abeceda poslovnog uspjeha*. Zagreb, Školska knjiga.

Petrović, G. (2007). *Logika*, Zagreb: Element.

Rayburn, L. G. (1993). *Cost Accounting*. Burr Ridge, Illinois, Irwin

Swann, P. (2009). *The Economics of Innovation*. Northampton USA: Edward Elgar Publishing Limited.

Šamić, M. (1990). *Kako nastaje naučno djelo. Uvođenje u metodologiju i tehniku naučnoistraživačkog rada – opširni pristup*. Sarajevo: Svjetlost.

Šošić, I. (1998). *Zbirka zadataka iz statistike*. Zagreb: Mikrorad i Ekonomski fakultet Zagreb.

Štahan, M., Baica, N., Bičanić, N. i dr. (2010). *Računovodstvo trgovačkih društava*. Sv. Ivan Zelina: TEB.

*The Theory of Constraints and its Thinking Processes*. (2009). Avraham Y. Goldrat Institute. Dostupno na: <http://www.goldratt.com/pdfs/toctpwp.pdf> (pristup: 15.5.2014.).

Timmons, J. A., Spinelli, S. (2007) ; *New Venture Creation – Entrepreneurship for the 21st Century*. Singapore: McGRAW-Hill.

Vidučić, Lj. (2006). *Financijski menadžment*. Split: RRiF – plus.

Whetten, D. i Cameron, K. (2007). *Developing Management Skills*. Upper Saddle River: Prentice Hall.

Zelenika, R. (1998). *Metodologija i tehnologija izrade znanstvenog i stručnog djela*. Rijeka: Ekonomski fakultet u Rijeci.

**Sunčica Oberman Peterka, Ph.D.**

J.J. Strossmayer University of Osijek

Faculty of Economics in Osijek

Trg Lj. Gaja 7, Osijek

Phone: +385 91 224 40 22

E-mail: suncica@efos.hr

**Tihana Koprivnjak, mag.oec.**

J.J. Strossmayer University of Osijek

Faculty of Economics in Osijek

Trg Lj. Gaja 7, Osijek

Phone: +385 91 224 40 26

E-mail: tihana@efos.hr

**Mirjana Zvijerac, mag.oec.**

E-mail: mirjana.zvijerac@hotmail.com

**WOMEN AND ENTREPRENEURSHIP IN CROATIA – STEREOTYPES,  
IMPEDIMENTS, INCENTIVES**

**ŽENE I PODUZETNIŠTVO U HRVATSKOJ – STEREOTIPI, PREPREKE,  
POTICAJI**

**ABSTRACT**

*Entrepreneurship is important for the development of society and the economy as a whole. Consequently, there is an increasing number of different programs that encourage the development of entrepreneurship, especially aimed at certain groups (the youth, women...), as a way of solving the issue of unemployment of those groups. Because women are more numerous in the population, as well as in unemployment, "female entrepreneurship" is becoming a hot topic. Entry of women into entrepreneurship is hindered by various barriers; administrative, cultural, financial and many others, and since the importance of women in entrepreneurship is becoming increasingly recognised, there are more and more different programmes and incentives that help women overcome the above barriers and solve the issue of unemployment through self-employment.*

*The aim of the paper is to show the importance and characteristics of "female entrepreneurship", and to present in one place the most common problems and barriers faced by women entrepreneurs in Croatia. This paper presents the experience of several European countries, which have reduced the barriers through various projects and initiatives, and encouraged women to enter the world of entrepreneurship. Based on these experiences, recommendations for improvement of the state of "female entrepreneurship" in Croatia are given.*

**Keywords:** *Entrepreneurship, women and entrepreneurship, "female entrepreneurship", programs for development of "female entrepreneurship"*

**SAŽETAK**

*Poduzetništvo je značajno za razvoj društva i gospodarstva u cjelini. Kao posljedica toga, javlja se sve veći broj različitih programa za poticanje razvoja poduzetništva, a posebno se potiče i ulazak određenih skupina (mladi, žene...) u poduzetničke vode i pokretanje poduzetničkih pothvata, kao jedan od načina rješavanja problema nezaposlenosti tih skupina. Budući da su žene brojnije u*

*populaciji, ali u nezaposlenosti, žensko poduzetništvo postaje vrlo aktualna tema u zadnje vrijeme. Ulazak u poduzetničke vode ženama je otežan različitim barijerama; administrativnim, kulturnim, finansijskim i brojnim drugim, a kako se sve više prepoznaje značaj žena u poduzetništvu sve su brojniji različiti programi i poticaji koji pomažu ženama u savladavanju navedenih barijera i rješavanju problema nezaposlenosti kroz samozapošljavanje.*

*Cilj ovog rada je prikazati važnost i karakteristike „ženskog poduzetništva“, te na jednom mjestu prikazati koji su to najčešći problemi i barijere s kojima se susreću žene poduzetnice u Hrvatskoj. U radu se prikazuje iskustvo nekoliko europskih zemalja, koje su različitim projektima i inicijativama smanjile barijere te ohrabrile i potaknule žena za ulazak u svijet poduzetništva. Na temelju ovih iskustava dane su i preporuke za poboljšanje stanja „ženskog poduzetništva“ u Hrvatskoj.*

**Ključne riječi:** Poduzetništvo, žene i poduzetništvo, žensko poduzetništvo, programi za razvoj „ženskog poduzetništva“

## **1. Introduction**

There is increasing talk about entrepreneurship, entrepreneurs, business owners, managers, self-employment; the importance of entrepreneurship for economic development and the development of society as a whole is more and more understood. Female entrepreneurship is one of the more recent topics. Why should there be a distinction between male and female entrepreneurship? Is there a difference between men and women? It would be good if we could say that there are no differences, that gender inequalities have been finally erased, but, unfortunately, they are still present. This is why special emphasis is placed on women entrepreneurs and attempts are made to determine what barriers are on the path of achieving their entrepreneurial ideas.

From the very start of their entrepreneurial career, things are more difficult for women, due to a lack of information, not having real estate and movable property that could be used as collateral for entrepreneurial loans, and therefore because of more difficult obtaining of financial support. Problems also occur when harmonising entrepreneurial activities with family responsibilities. Wishing not to neglect the family, women are often faced with the problem of the lack of data and information that are spread through informal channels. They spend the majority of their free time on housework. These are some of the reasons why a difference between men and women entrepreneurs is created.

The paper gives an overview of the basic determinants of women in entrepreneurship, differences between women and men entrepreneurs and barriers with which women entrepreneurs are faced. Based on the data from Global Entrepreneurship Monitor (GEM) and Organisation for Economic Co-operation and Development (OECD) studies, various data about women entrepreneurs worldwide is presented, and recommendations what could be done to facilitate the entry and survival of women entrepreneurs in entrepreneurial waters are given.

### **1.1. Objective and methodology of the paper**

The objective of this paper is to try to draw attention to the importance of the issue of women in entrepreneurship, and present in one place the most common problems that women entrepreneurs face. The decision to write a paper on this topic arose from the desire to draw attention to the problems of women when entering the world of entrepreneurship, to explain certain stereotypes (myths) about women entrepreneurs and to show good examples of encouraging of „female entrepreneurship“. Numerous scientific literature, books, journals, articles from webpages were used in the preparation of this paper. The methods used in the preparation of the paper included the case study method, analysis, compilation and (incomplete) induction.

## **2. The nature and importance of entrepreneurship**

Entrepreneurship, as in starting a business venture, is the oldest form of doing business and the most important factor in the creation of the modern society (Kuvačić 2005). Thanks to entrepreneurship, the standard of living has increased significantly in many parts of the world. Although people have been starting and running businesses for many years, the understanding and importance thereof started to be noticed only a few years ago.

As entrepreneurship developed through centuries, numerous definitions of entrepreneurship were also created and developed. In the narrowest sense of the word, entrepreneurship represents the launch of a business venture, but today entrepreneurship is increasingly referred to as a way of life and thinking necessary for everyone. One of the most often cited definitions of entrepreneurship is that it is a process of „creating something new and valuable by devoting time and effort, assuming the accompanying financial, physical and social risks and ultimately receiving awards in the form of monetary and personal satisfaction and independence.“ (Hisrich et al. 2011:8). According to Timmons (2009), entrepreneurship is a process in which something is built from almost nothing, it is „the process by which entrepreneurs pursue opportunities regardless of the resources they currently control.“ (Stevenson, 1983).

### **2.1. Women and entrepreneurship**

Entrepreneurship is traditionally defined as a „male activity“ because the men were the primary participants in entrepreneurial activity. In contrast, in the past few years, there is more and more talk about women entrepreneurs, who, despite gender inequality, have managed to secure their place among the male population. Although today it can be often heard that „female entrepreneurship“ is an untapped economic potential, it cannot be said that developments in that field are happening at a drastic rate. As there is still no precise definition of a women-owned business in Croatia, the American definition from 1979 is stated: “women-owned business means a business that is at least 51 percent owned by a woman or women who also control and operate it. Control means exercising the power to make policy decisions, while operate means being actively involved in the day-to-day management.”<sup>1</sup>

### **2.2. Women entrepreneurs versus men entrepreneurs**

It is often asked why should entrepreneurship be called „female“, when entrepreneurship certainly has no gender nor is it determined by gender, and if there is „female“, then there should also be „male“ entrepreneurship, which we know is not the case. For all these reasons, it would be more correct to talk about women in entrepreneurship, characteristics of businesses that are owned by women, challenges, problems and barriers that women face and about the possibilities of dealing with those barriers, problems and challenges.

It is evident that there are differences between men and women, and they are especially pronounced in the business world. There are many indicators that it is simpler for the male population to achieve their business ambitions. In order to prove themselves, women have always had to do much more, which also applies to women entrepreneurs. Men dominate in the total number of entrepreneurs, although women have made significant progress in the number of established entrepreneurial ventures during the last decade.

Female entrepreneurs are in many ways different from their male colleagues. They are characterised by a specific style of running the business, as well as by various circumstances that often do not have direct connection with the business itself. Women in entrepreneurship have to learn how to maintain a balance between family and business obligations, how to harmonise possibilities with wishes and how to secure their place in the world where women entrepreneurs are still a novelty.

---

<sup>1</sup> National Archives (Executive Order 12138 of May 18, 1979) Available at: <http://www.archives.gov/federal-register/codification/executive-order/12138.html> (accessed: April, 2016)



Besides having to learn how to maintain a balance, they often have to struggle with the environment which does not have enough understanding for their entrepreneurial ambitions, which often leads to giving up even before an attempt at creation (Kruh i ruža, 2005).

Some of the reasons why women are entering the world of entrepreneurship are: survival through self-employment, desire to stay with the family as long as possible and therefore seeking an occupation complementary to that primary role, or they simply want to show that they are open to new things (Miošić Lisjak et al. 2002:11). Women are ready to start a business without a large sum of money, unlike their male colleagues who are striving to secure a large amount of capital for the very start, they are ready to search for any information and assistance in order to achieve their goals more easily. Women in entrepreneurship demonstrate patience, curiosity, openness to new technologies and tolerance, and show that they are not perfect and that they are ready to learn every day to enhance their knowledge and ensure long-term stability and success, both at business and private level. They have a reputation for being conscientious, enterprising, precise, fair, dedicated to work and resourceful in any situation. What women need is great support from both the family and the social environment (Hisrich et al. 2011). A job created by a woman entrepreneur is more secure (female businesses are smaller, but they also lose fewer jobs), they care more for their employees, they support employees more in their ambitions, they invest more in the education of employees, they are more willing to work in teams and they are developing quality interpersonal relationships; they offer more opportunities for reimbursement of expenses, share of profit, more flexible working hours and are more considerate regarding maternity leave. Women entrepreneurs are involved in service activities the most, because, among other things, they require lower initial investment; they do not measure success only by profit, but by customer satisfaction; success of the organisation or some idea is more important to them than their own ego; they are more cautious when taking loans (Turk, 1999: 162-163). Women are also less inclined to risk, which means that they ponder on their every move. Their growth is slower because of that, but they are much less likely to fail than those who enter risky situations quickly and easily.

There are ingrained stereotypes about female and male roles in entrepreneurship and management where it is considered that men are more emotionally stable although research shows that men and women have the same range of emotions, and the stereotype stems from the fact that women show more emotions than men. It is also believed that men are intellectually superior even though this is not confirmed by research; that they appreciate achievement, progress and important jobs more than women, although numerous studies show that women are intrinsically motivated, because, equally as men, they are unsatisfied with a job that does not allow the use of all abilities; that they are more decisive than women, although it has been shown that women can be equally decisive as men, and that a successful manager has male attributes although it has been shown that characteristics of a good manager most often depend on and vary in different circumstances (Informatologia 2004: 239-240).

Contrary to stereotypes, women entrepreneurs and men entrepreneurs, however, differ with regard to motivation and reasons for starting a business venture, sources of funds, occupational background, personality and family characteristics, sources of support, and the type of entrepreneurial venture, which they start the most often (Hisrich et al., 2011: 63-65). Table 1 shows the difference between women and men entrepreneurs, given the above criteria.

**Table 1** Comparison between male and female entrepreneurs

Characteristics	Male entrepreneurs	Female entrepreneurs
Motivation	Achievement – tendency to get things done Personal independence – self-image relating to the status based on the role in corporation is irrelevant Job satisfaction is based on the desire to be in control	Achievement – obtaining a goal Independence – to do it alone
Departure point	Dissatisfaction with present job Sideline in college, present job, or outgrowth of present job Discharge or lay-off Acquisition opportunity	Job frustration Interest in and recognition of opportunity in the area Change in personal circumstances
Sources of funds	Personal assets and savings Bank financing Investors Loans from friends and family	Personal assets and savings Private loans
Occupational background	Experience in line of work Recognised specialist or person who has reached a high level of achievement in that area Competent in a variety of business functions	Experience in area of business Middle-management or administrative-level experience in the field Service-related occupational background
Personality characteristics	Opinionated and persuasive Goal oriented Innovative and idealistic High level of self-confidence Enthusiastic and energetic Must be own boss	Flexible and tolerant Goal oriented Creative and realistic Medium level of self-confidence Enthusiastic and energetic Ability to deal with the social and economic environment
Background	Age when starting venture 25-35 Father was self-employed University educated – degree in economics or a technical field (usually engineering) First-born child	Age when starting venture 35-45 Father was self-employed University educated – degree in humanities First-born child
Support groups	Friends, professional acquaintances (lawyers, accountants) Business associates Wife	Close friends Husband Family Women's professional groups Trade associations
Type of business started	Manufacturing or construction	Service related – educational services, consulting or public relations

Source: Hisrich, R. D., Peters, M. P., Shepherd, D.A. (2011: 63-65). Poduzetništvo. Zagreb: MATE

### 2.3. Opportunities and obstacles in the development of female entrepreneurship

There are many obstacles that hamper solving problems in strengthening women entrepreneurship, and they can be divided into three groups: structural, economic and „soft“ obstacles (Strategy of Women Entrepreneurship Development in the Republic of Croatia 2014-2020). Structural obstacles

are deemed the most demanding, because they are the result of cultural heritage (values base), absence of political willingness for consistent implementation of a political-regulatory framework, and infrastructural insufficiency to support family life. They include educational choices of women, which reduce the possibility for women to start business ventures in technology intensive activities, stereotypes about women in science and technology, traditional views on the role of women in society, absence of support for women with two jobs (family and profession) and political-regulatory framework and its implementation with the aim of strengthening gender equality (Strategy of Women Entrepreneurship Development in the Republic of Croatia 2014-2020). In order to remove them, it is necessary to make a lot of changes, from facilitating different forms of employment and performing business activities, securing financial support for women for using childcare services, and intensively work on gender sensitization of the public, and many others.

Economic obstacles relate to difficult access to financing and insufficient number of business connections (non-networking). In order to finance women's ventures special incentive measures and strategic partnership of different government programs with commercial banks are necessary, with the aim to bolster women's entrepreneurial projects, especially the projects with growth potential. Tax policy can encourage alternative forms of financing (business angels), and new forms of financing should be enabled through regulatory solutions.

„Soft“ obstacles include lack of advice, mentorship, lack of access to the networks of entrepreneurs (male or female), lack of training and educational programs and schooling for technology intensive ventures and role models, especially in the field of entrepreneurial ventures in technology intensive activities and science, and perception of women about the lack of self-confidence and lack of capacity for risk-taking.

Social expectations also differ for women and for men. Namely, it is expected from women to take on greater responsibility at home, to take care of children and the elderly, i.e., to fulfil their obligations towards the family. In some countries, women are not welcome at all social events, meaning that they have less information at their disposal from the start, and that possibility for additional networking is reduced, which can be important for the advancement of their business.

All of these obstacles are very complex, because of which they are very difficult to remove.

#### **2.4. Importance of encouraging female entrepreneurship**

Although, according to statistics, women outnumber men in the world, when it comes to women entrepreneurs, gender imbalance is clearly visible. The Strategy of Women Entrepreneurship Development in the Republic of Croatia 2014-2020 stresses that it is necessary to intensify gender equalisation activities because of increase of rate of risk of poverty for women, especially in their old age; predomination of women in unemployment; predomination of men in entrepreneurial activity and because of fragmented, incoherent programs and activities for encouraging entrepreneurial activity.

However, encouraging women entrepreneurs does not have only social benefits based on gender equality, but also significant economic benefits. Economists say that women are becoming an increasingly important economic force in the business world, they are creating new jobs. Women are a significant source of new employment, self-employment, new entrepreneurship and economic development.

The economic dependence of the majority of women in places where important social decisions are being made, objectively prevents women to express their potential, and thus they are passivated. The non-participation of women in social life further deepens the counter-modernisation tendencies of society, and such developments will result in even more pronounced passivation and marginalisation of some groups of women. Therefore, it is of great importance to implement a variety of measures to encourage female entrepreneurship and empowerment of women in society in order to mitigate and ultimately completely eliminate traditional attitudes about women in business, family and society. Non-governmental organisations, both worldwide and in Croatia, dealing with economic and political empowerment of women, help women to devise concrete action

plans for the improvement of economic status in their community, organise roundtables, seminars, workshops and other types of training. Encouraging development and proposals of measures for the development of female entrepreneurship in Croatia is the most important component of development of „female entrepreneurship“.

### 3. „Female entrepreneurship“ in the world

Women make up half the world's population, and their participation in entrepreneurship significantly differs from that of men. According to GEM 2012 Women's Report, it has been shown that participation of women in entrepreneurship differs around the world, as well as their impact on new job creation and innovation. However, in almost every economy in the world there are still less women entrepreneurs than their male counterparts.

In 2012, an estimated 126 million women have started a new business venture in 67 economies around the world, and besides, 98 million women were already running their established businesses. These women did not only create jobs for themselves and their co-founders, but they also employ others. A projected 48 million women entrepreneurs and 67 million female businesses employ one or more people in their businesses. In addition, these women entrepreneurs plan to grow their businesses, with some of them expecting to grow their businesses by six employees in the next five years. (GEM 2012 Women's Report, 2013).

Some of the most important data related to women entrepreneurs in the world are listed below (GEM Report 2013, 2014):

- **Entrepreneurial activity of women in relation to men** – this study shows that only in Sub-Saharan Africa the rate of men and women in early-stage entrepreneurial activity is almost equal. Ghana, Nigeria and Zambia are notable cases, which exhibit more participation of women than men in entrepreneurship. Some other countries like Brazil, Indonesia, Philippines, Thailand, Switzerland and Russia that come from various regions, also have a similar proportion of women and men entrepreneurs. However, such a case is not visible in any other region encompassed by the GEM research. In Pakistan, women represent only 1% of the working population, while, for example, in the aforementioned Zambia, as many as 40% of women participate in entrepreneurial activity. Extremely high entrepreneurial activity in developing countries is a consequence of high unemployment, which means that business ventures are started out of necessity, which ultimately can hardly bring success and economic development.
- **Age and level of education** – The age and level of education with which women enter entrepreneurial activity also vary from region to region. In the majority of them, women aged 18-34 years have the same rate of participation in entrepreneurial activities as women aged 35-64 years. Such cases are recorded in Sub-Saharan Africa, Latin America/Caribbean, more developed part of Asia and Europe and the United States of America. In the developing countries in Europe and Israel, the rate of young entrepreneurs is 63% higher than that of their older colleagues. The lowest level of education is present in Sub-Saharan Africa, where 15% of women entrepreneurs have finished at least some level of higher education. The largest number of women who have completed at least some level of higher education is in the USA, as many as 70%. On average in all the OECD countries, 33% of self-employed women and 27% of self-employed men have higher education (Piacentini, 2013).
- **Fear of failure** – In each region, according to the GEM research, women on average have a higher level of fear of failure than men. This indicator is the lowest among women in Sub-Saharan Africa (25%), followed by Latin America/Caribbean (31%). Areas with the highest level of fear of failure are developed Europe (45%), developed Asia (47%) and Israel (52%). Women often feel fear of failure because of obstacles which stand in their way, and because of belittling when entering the „male“ world, which is still prevalent in entrepreneurship.

- **TEA opportunity or TEA necessity**<sup>2</sup> – The following data shows whether companies are started because of opportunity or out of necessity. In developed Europe, as many as 73% of women start their businesses because of perceived business opportunity, while in Sub-Saharan Africa and Central Asia as many as 37% of women start businesses out of necessity. It is good to know that in Europe the percentage of women who start a business venture because of a perceived opportunity is increasing. The reasons for this could primarily be increasingly frequent incentives for women to engage in entrepreneurship, organisation and implementation of various trainings, mentoring and similar programs of assistance and learning about entrepreneurship.
- **Entrepreneurial intentions** – 52% of women in Sub-Saharan Africa intend to start their own business in the next three years, while in Europe the percentage is much lower (only 8%). In almost all economies, men have more pronounced entrepreneurial intentions in relation to women. Self-employment is not a possible career choice for most women and they rather prefer working as someone's employees.<sup>3</sup>
- **Level of innovation** – it is the highest among women entrepreneurs in the United States of America (36% of products or services that were new for everyone or for some users and which have no competition). The level is slightly higher in women than in men. A high level of innovation is also visible in Europe, as much as 32%, and it is equal to that of men. The lowest level of innovation among women entrepreneurs (17%) is present in Asia, and it is lower than the rate of innovation of men.
- **Number of employees/growth** – in each region women are more likely to work without employees than men. The highest rate of female entrepreneurs who work without employees is in Latin America/Caribbean, while in developed Europe 80% or more female entrepreneurs have employees. Women entrepreneurs are not prone to growth as much as their male counterparts. A little more than one-tenth of women entrepreneurs in developed Asia and Sub-Saharan Africa are expected to have up to five employees in the next five years. In contrast, one-quarter of women entrepreneurs in developed Europe expect to grow their business by more than five employees in the next five years.
- **Internationalisation** – women entrepreneurs in developed regions have a lower level of internationalisation in relation to their male colleagues. Developed Europe (24%) and Israel (27%) have the highest level of internationalisation among women. An exception is the USA with Latin America/Caribbean, whose level of internationalisation is 7%.

Experience shows that at all levels there is still an insufficient level of awareness of the potential and real possibilities that female entrepreneurship can create for social and economic development. The majority of such incentives are aimed at encouraging self-employment and creation of small businesses as the engine for the development of the private sector. Companies owned by women show a high level of social responsibility, and are proponents of economic development, as well as of social change.

#### 4. Projects and programs for the support of female entrepreneurship in the Republic of Croatia

Both in Croatia and in European Union countries, men more often decide to pursue entrepreneurial activities, but in Croatia that ratio is much more in favour of men than the European Union average.

---

<sup>2</sup> *TEA Opportunity*: the number of entrepreneurs per 100 adults, aged 18-64 years, who have opted for entrepreneurial activity because they have perceived a business opportunity

*TEA Necessity*: the number of entrepreneurs per 100 adults, aged 18-64 years, who have opted for entrepreneurial activity forced by the situation they have found themselves in (lost their job, could not find other employment, etc.) - <http://www.gemhrvatska.org/rezultati2003.html> (accessed: September 20, 2014)

<sup>3</sup> Promoting women's economic independence and entrepreneurship, Good Practices, EIGE, 2015

In 2013, there were 2.24 times more entrepreneurially active men than women in Croatia, while in the European Union there were 1.86 times more entrepreneurially active men than women. (Strategy of Women Entrepreneurship Development in the Republic of Croatia 2014-2020).

Female entrepreneurship can be successfully encouraged through<sup>4</sup>:

- Intensifying lobbying activities of professional women's organisations and non-profit associations and particularly focus on the creation of legislation, which would provide a positive atmosphere for faster development of female entrepreneurship
- Organising the exchange of experience between already successful female entrepreneurs and beginner female entrepreneurs, introducing mentoring, public presentations of personal experiences of successful female entrepreneurs
- Offer of various programs for encouraging female entrepreneurship, which provide training, education, guarantees for obtaining bank loans for starting businesses by women
- Encouraging the networking of women entrepreneurs through local and regional development networks of women entrepreneurs
- Providing free or subsidized consulting services of foreign or local consultants to female entrepreneurs

Encouraging female entrepreneurship implies systematic introduction of specific measures that encourage women to start business ventures. Those measures should comprise of the following (Kruh i ruža, 2015):

- Financial support and additional opportunities for the education of women in entrepreneurship, various scholarships for entrepreneurial courses, programs preparing women for self-employment, subsidized retraining programs
- Encouraging the establishment of entrepreneurial centres in which future female entrepreneurs could obtain all the necessary information (financial, banking, legal, tax, health, pension and other advice for starting a business) and would design educational programs that would affect the increase of the number of women in entrepreneurship
- Incentive measures for entrepreneurial projects of women, such as co-financing business plan development
- Tax relief for home assistance for all employed women and women entrepreneurs
- Improving the infrastructure for childcare (encouraging the establishment of private infant nurseries and kindergartens with the support of local government, self-government and the Government)
- Changes to the education system in accordance with the needs of the development of the society (encouraging entrepreneurial spirit in education and introducing basics of entrepreneurship to all secondary schools, with emphasis on planning and negotiation skills and teamwork).

When starting a business, women are often faced with the problem of unifying the information and data that they need at the very beginning. The question arises who and what can help them in their efforts to enter entrepreneurial waters. There are a lot of institutions in Croatia in which one can seek help or partial solution for problems. Some cities have made a breakthrough in helping beginner entrepreneurs by establishing entrepreneurial centres, incubators and development agencies. There are also numerous institutions that provide assistance to entrepreneurs at the local level, such as local self-governments, Croatian Chamber of Economy (HGK), Croatian Chamber of Trades and Crafts, Croatian Employment Service, Croatian Pension Insurance Institute, Ministry of Entrepreneurship and Crafts (MINPO), Croatian Bank for Reconstruction and Development (HBOR) and others. The importance of these institutions in Croatia is becoming more and more recognisable, and they are being opened in new locations almost every month.

Listed below are some of the training or support programs for women in entrepreneurship in the Republic of Croatia.

---

<sup>4</sup> Proceedings of the Conference Women's Entrepreneurship East-West Co-operation (2010: 690-691), Institute for International Relations, Zagreb

- Croatian Bank for Reconstruction and Development (HBOR) – loan program for financing female entrepreneurship „Women entrepreneurs“ – since 2011 HBOR has been implementing the loan program for women entrepreneurs in the Republic of Croatia with the aim to encourage the establishment and development of small and medium-sized businesses majority-owned by women.
- Center for Education, Counselling and Research (Cesi) – currently has several active projects, which include „Creating innovative opportunities for self-employment of for the unemployed women with higher education from the City of Zagreb“, „BADGE – Counselling and Training for Women Entrepreneurs“, „European Opportunities for Rural Women“, and the project „Women Choose a Second Chance“.
- Regional Center for Community Building and Civil Society Development DEŠA – Dubrovnik is constantly implementing various programs, and their currently active projects are „Women Innovators in Social Entrepreneurship“ and „WISE – Lifelong Learning Project“.
- European Bank for Reconstruction and Development – two-year program for women entrepreneurs, which is supported by donor funding of the Taiwan-EBRD Business Cooperation fund, and consists of the following activities: provision of advisory services, training on entrepreneurial skills, mentoring, coaching, and a specialised loan program for women entrepreneurs through local banks.
- Center for Entrepreneurship Osijek – the *Women in Network* project, which aims to strengthen the entrepreneurial climate and motivate women entrepreneurs and future women entrepreneurs in the Osijek-Baranja County.

In addition to these programs, there are also numerous associations and institutions that are developing various programs and activities aimed at encouraging women in entrepreneurship, removing existing obstacles and eliminating prejudices and stereotypes that exist in society.

## 5. Conclusion

There should not be any differences between male and female entrepreneurship in terms of development and success of entrepreneurial ventures, but these differences do exist. They have been created by historical, socio-cultural, ideological, educational and socio-economic barriers and they are not easily refuted. Although traditional attitude of men towards women has been stated as the main obstacle for women in business so far, it can be said that men are not the only culprits. Namely, there are still women who believe that their place is in the house, with children, without any right to vote and choose, because the husband is the one who is providing for the family. However, the times when women were satisfied with the role of mother, wife and housewife have passed. The situation is increasingly changing from year to year, young women are more and more educated and they want to have their own source of income in the future. Despite this, the number of women who want to start their own business and call themselves women entrepreneurs is still low. The characters and attitudes of women are not the same, but women of today should be aware of the fact that encouraging gender equality in everything brings significant social change and economic development, which ultimately contributes to everyone personally. Encouraging female entrepreneurship is not feminism. Encouraging female entrepreneurship at the global level gives courage and strength to every woman who has a good idea, who has entrepreneurial characteristics, who has the will and desire to use her potential, and to enjoy her work and achievements as the majority of male population does. With the help of programs for encouraging female entrepreneurship, which are being implemented in Croatia, starting a business venture is becoming easier. In this way, the problem of unemployment of women is being solved, but also of their potential, future employees.

The Republic of Croatia still has a great deal of work in terms of encouraging female entrepreneurship. Nevertheless, the activities initiated to promote female entrepreneurship help understanding the situation and encourage the development of new, similar programs, which ultimately lead to starting more and more ventures owned by women entrepreneurs.

## REFERENCES

Center for Education, Counselling and Research (Cesi), [www.cesi.hr](http://www.cesi.hr), (accessed April 2016)

Center for Entrepreneurship Osijek <http://www.czposijek.hr/vijesti/pozivamo-vas-na-dogadjaj-zene-u-mrezi-uhvatiti-se-ili-ne-325/> (accessed April 2016)

*Kruh i ruže* (2005), br. 26. Ženska infoteka, Feministički časopis Ženske infoteke Zagreb

*GEM 2012 Women's Report* (2013) <http://www.gemconsortium.org/report/48583> (accessed March 2016)

*GEM 2013 Global Report* (2014) <http://www.gemconsortium.org/report/48772> (accessed March 2016)

*Global Entrepreneurship Monitor Hrvatska* <http://www.gemhrvatska.org/> (accessed March 2016)

Hisrich, R. D., Peters, M. P., Shepherd, D.A. (2011) *Poduzetništvo*, MATE, Zagreb  
Croatian bank for Reconstruction and Development (HBOR) <http://www.hbor.hr/Sec1667> (accessed April 2016)

Croatian Chamber of Commerce (HGK) <http://www.hgk.hr/zk/zagreb/dvogodisnji-poticajni-program-ebrd-a-za-zene-poduzetnice-u-hrvatskoj> (accessed April 2016)

*Informatologia* (2004) Hrvatsko komunikološko društvo, Zagreb

Kuvačić, N. (2005) *Poduzetnička biblija*, Split

Miošić Lisjak, N., Čurlin, I. (2002) *Kako postati poduzetnica*, The Star Network of World Learning,

Miošić Lisjak, N., Čurlin, I. (2002) *Žene i poduzetništvo*, The Star Network of World Learning, Zagreb

Piacentini, M. (2013), "Women Entrepreneurs in the OECD: Key Evidence and Policy Challenges", OECD Social, Employment and Migration Working Papers, No. 147, OECD Publishing. <http://dx.doi.org/10.1787/5k43bvtkmb8v-en>

National Archives (Executive Order 12138 of may 18,1979) <http://www.archives.gov/federal-register/codification/executive-order/12138.html> (accessed April 2016)

Promoting women's economic independence and entrepreneurship, Good Practices, EIGE, 2015 [http://www.cite.gov.pt/pt/destaques/complementosDestqs/Ec\\_indep\\_entrep\\_EIGE.pdf](http://www.cite.gov.pt/pt/destaques/complementosDestqs/Ec_indep_entrep_EIGE.pdf) (accessed March 2016)

*Proceedings of the Conference Women's Entrepreneurship East-West Co-operation* (2010) Institut for International Relations, Zagreb

Regional Center for Community Building and Civil Society Development DEŠA, <http://desa-dubrovnik.hr/pocetna/wise-projekt-cjelozivotnog-ucenja/> (accessed April 2016)



Regional Center for Community Building and Civil Society Development DEŠA, <http://desa-dubrovnik.hr/projekti/obrazovni-projekti/zene-inovatori-u-socijalnom-poduzetnistvu/> (accessed April 2016)

Stevenson, H.H. *A Perspective on Entrepreneurship*, Harvard Business School, October 1983.

Strategy of Women Entrepreneurship Development in the Republic of Croatia 2014-2020, Ministarstvo poduzetništva i obrta, Vlada RH  
<http://www.minpo.hr/UserDocsImages/Strategije/SRP%C5%BD%20%202014%20-%202020,%20FINAL,%20lipanj%202014.pdf> (accessed April 2016)

Timmons A., Spinelli, S. (2009) *New Venture Creation – Entrepreneurship for the 21st Century*, 8th Edition, Irwin McGraw-Hill Company, USA

Turk, M. (1999) *Žensko poduzetništvo-način življenja* Poduzetništvo za 21. stoljeće – priručnik za trenere, savjetnike i promotore poduzetništva, Ministarstvo gospodarstva RH, Zagreb

**Zoltán Raffay, senior lecturer**

University of Pécs, Faculty of Business and Economics, Institute of Marketing and Tourism

H – 7622 Pécs, Rákóczi út 80.

Phone: 36 20 929 0723

E-mail address: raffayz@tk.pte.hu

**Mária Töröcsik, professor**

University of Pécs, Faculty of Business and Economics, Institute of Marketing and Tourism

H – 7622 Pécs, Rákóczi út 80.

Phone: 36 30 916 9325

E-mail address: torocsik@tk.pte.hu

**Viktória Gerdesics, assistant lecturer**

University of Pécs, Faculty of Business and Economics, Institute of Marketing and Tourism

H – 7622 Pécs, Rákóczi út 80.

Phone: 36 70 337 6135

E-mail address: gerdesics@tk.pte.hu

**FAST AND SLOW TOURISM – TOURISM PLANNING ON THE BASIS OF  
PACE OF LIFE**

**FAST I SLOW TURIZAM – PLANIRANJE TURIZMA NA OSNOVI  
ŽIVOTNOG RITMA**

**ABSTRACT**

*The significantly accelerated pace of life leads to the reconsideration of the supply of tourism, too. The speeding up of the pace of life is probably the most striking impact of all impacts influencing consumer behaviour. It is our everyday experience that we are bombarded with an ever faster flow of information, we travel, eat and shop faster and faster, and so changing consumer needs must be addressed faster and faster by touristic product development, as rapidly consuming tourists expect different advantages of the supply than they did before.*

*The intensification of trends always leads to counter trends, as people cannot stand continuous pressing of time and take a refugee in slowing down (Töröcsik 2006). Typical reactions to the stress of time are “getting off” temporarily or even conscious, final slowing down. Signs of this include wanting homeliness instead of increased mobility; activities giving emotional experiences, instead of chasing achievements; support of local values vs. global ones; search for belonging to a community vs. individualism; new asceticism vs. hedonism – looking for the authentic, instead of the packaged experiences of the tourism sector. These lead to the appearance of a new form of tourism: slow tourism, besides traditional (mass) tourism. Slow tourism is an emerging market segment within the tourism industry that is forecasted to grow annually 10% at least in the coming years. Together with other forms of alternative tourism – ecotourism, sustainable tourism – it allows places unknown for, or forgotten long ago by tourists to become destinations again; this way slow tourism may even be a significant factor in territorial development.*

*Slow tourism can be analysed with two approaches. In the first concept it has three main pillars: doing things at the right speed; changing the attitude towards speed; and seeking quality over quantity. In the other approach slow tourism has two basic components: spending a longer time in*

one place (which contradicts today's tourism trends, the growing frequency and shortening individual duration of travels) and visiting attractions closer to the place of residence.

Different motivations can make tourists become "slow tourists". Inspirations include the motivations of the environment and health conscious LOHAS (Lifes of Health and Sustainability) group (Helmke et al 2016, Töröcsik 2007) – consciously avoid individual travel with higher carbon footprint, as well as flights, and choose alternative means of travel, or public transportation –, and the intensification of the experience, the depth of involvement (more time, more in-depth experiences, closer touch with the local community). In addition to keeping in touch with the local community, the target audience of slow tourism prefers locally grown and produced foods, which may have considerable local economic and community development impacts and environmental benefits, contributing thereby to making the whole of the tourism sector more sustainable.

The authors of the paper identify factors that distinguish fast and slow tourism, and elements of consumer behaviour that must be addressed both in product development and communication at different types of the supply. They also look at what tourism trends support this sort of planning attitude

**Keywords:** fast and slow tourism, pace of life, tourism trends, consumer behaviour trends, LOHAS tourists

### SAŽETAK

Znatno ubrzan ritam života daje razlog za ponovno razmatranje turističke ponude. Sve brže smo bombardirani informacijama, brže putujemo, jedemo i kupujemo, turisti očekuju druge prednosti ponude nego prije, stoga na promijenjene potrebe potrošača brza reakcija razvoja proizvoda postaje nužna.

S pojačanjem trendova se uvijek pojave i protutrendovi. Tipična reakcija na pritisak vremena je privremeni „izlazak“ ili svjesno, konačno usporenje; na povećanu mobilnost želja za domaćem; umjesto tjeranja postignuća traženje aktivnosti koje daju emocionalni doživljaj; lokalne vrijednosti protiv globalnih; umjesto individualizma osjećaj pripadanja nekoj zajednici; novi asketizam protiv hedonizma – želja za autentičnosti umjesto gotovih doživljaja ponuđenih u turističkom sektoru. Ovo vodi do pojave novog oblika turizma pored tradicionalnog masovnog: slow turizma. Slow turizam je tržišni segment u nastajanju, za koji se prognozira najmanje 10% povećanje nadolazećih godina. Daje priliku mjestima nepoznatima ili zaboravljenima da ponovno postaju turističke destinacije; stoga slow turizam može postati značajna činjenica u razvoju područja.

Postoji dva pristupa proučavanja slow turizma. U prvoj koncepciji slow turizam ima tri bitna komponenta: činiti stvari u pravom ritmu; promijeniti stav prema brzini; te tražiti kvalitetu umjesto količine. Po drugom pristupu slow turizam ima dvije osnovne sastavnice: provoditi više vremena na istom mjestu te posjetiti turističke atrakcije u blizini mjesta stanovanja.

Razne motivacije mogu pretvoriti turiste u „slow turiste“: inspiracija LOHAS grupe s brigom za okoliš i zdravlje (svjesno izbjeći individualno putovanje ili letove, a umjesto ovih izabrati alternativan način putovanja ili javni prijevoz), te potraga za doživljajem i veći involvement (više vremena, veći doživljaj). Ciljno tržište slow turizma preferira lokalno proizvedenu hranu, uz koju se veže utjecaj na lokalno gospodarstvo, zajednicu i okoliš.

Autori rada identificiraju činjenice koje dijele fast i slow turizam, te sastavnice ponašanja potrošača kojima se moraju obratiti razni oblici ponude u razvoju proizvoda i komunikaciji. A istovremeno traže trendove koji potpomažu ovu vrstu stava planiranja.

**Ključne riječi:** fast i slow turizam, životni ritam, trendovi u turizmu, trendovi u ponašanju potrošača, LOHAS turisti

## 1. Fast, slow– decision-organising dimension

Our time is finite, so time is the most valuable asset that we have. Accordingly, we – often unconsciously – measure our time in matters of money; time has a price that appears among the aspects during decision-making. We now take it natural that our convenience, fast service costs extra money. How important time is in our life is also demonstrated by the fact that its role is there in every decision that we make, in fact, even decision-making types can be defined on this ground, distinguishing fast and slow decisions as a start (Kahneman 2011). In several cases thus the central role of time is detectable in our decision-making aspects: some prefer slow supply allowing more time to focus, in others' expectations fast and convenient solutions enjoy priority. This way the examination of time, of its impact on the target groups in marketing and its role in the research of consumer behaviour has selected importance.

In Levine's words the relation to time is the pace of life (Levine 1997), which is created by the community behaviour of the given community. He measured the pace of life in some cities in the world, on the ground of the speed of walking, the speed of talk, the frequency of having a watch and the time demand of some selected transactions. He found that in cities where economic conditions are better, pace of life is faster, and in proportion with that the inhabitants are less sensitive socially. Today's man, especially in cultures chasing the principle of performance, is caught in the frameworks created by time, feeling the weight of acceleration in the first place (Eriksen 2001). Everybody complains about the scarcity of their time, in addition, they have difficulties in managing the little time at their disposal. A feature of our modern time is the supply of time management books, courses, equipment and applications, reacting to the stress created by delays, the feeling of being omitted – and finally the feeling of passing away.

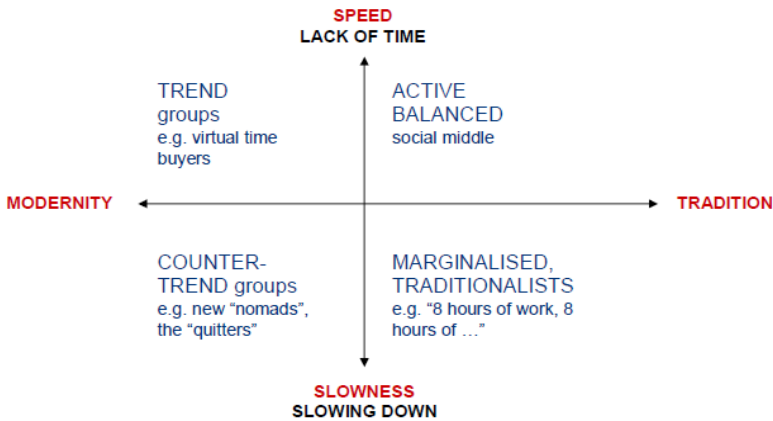
The concept and interpretation of time, in addition, is not clear-cut, we think paradoxically about time, time appears in a paradox was in our decisions (Boyd-Zimbardo 2010). In the opinion of Boyd and Zimbardo, it is time that has the largest influence on our decisions, but we are not aware of this in most of the cases. These two authors also pointed out that we think in different time perspectives: we may be present-oriented, past-oriented or future-oriented, but it is not the best to represent one-sidedly the characteristics of these types.

### 1.1. Pace of life and lifestyle

The relation to time is one dimension that can be used for the separation of consumer groups, on the basis of whether their time behaviour and pace of life is characterised by acceleration/speed or slowing down/slowness.

It is a very important starting point that the paces of life of people also have impact on their lifestyles, the relevance of which was examined by a lifestyle model reflecting to this characteristic (Töröcsik-Szűcs 2004). A table component of lifestyle models is value orientation, demonstrated on axis x (modern–traditional), i.e. the range of consciously accepted values that we see as benchmarks when making decisions. According to the model cited above, today pace of life is the other dominant dimension, interpretable on axis (fast–slow) and demonstrating the lifestyle groups. Our hypothesis was that those who live a fast life have higher incomes, knowledge level and closer connections with modern technology (ICT), whereas the ones who live slower lives, either consciously choose that and represent the counter-trend, or are pushed out of the main flows of society. The four quarters created by the two axes are the starting points of different lifestyles: in the fast and modern quarter we find the trend groups, the slow and modern quarter contains the counter-trend followers, the fast-traditional quarter is typical of the activity and balanced layers representing the mean of the society, while the quarter of the slow and traditional is the area of those left behind, and traditionalists (see in Figure 1).

**Figure 1** Dimensions of the Lifestyle–Inspiration model



Source: Törőcsik M. – Szűcs K. (2004): *Tempo-based lifestyle segmentation: Theoretical framework and empirical experiences in Hungary*. In: José L Munuera (ed.) *Worldwide marketing: 33<sup>rd</sup> EMAC conference proceedings*. Murcia: [s. n.], 2004.

## 1.2. Megatrend impacts on tourism

When planning touristic products, on defining the supply of products and services attractive for our potential and existing customers, we have to take into consideration the trend environment that is the framework of today’s people. Our lives are most seriously impacted by ICT, info communication technology, and sustainability, ecological issues. Looking at the megatrends from the aspect of tourism, categories that belong here are health, experience-orientation and individualism.

The *world of IT* is now present almost everywhere, resulting in enormous changes among other things in the phases of decision-making in shopping, ways of shopping, everyday life, leisure time habits – although with different scopes in the various generations. Digital cultural transformed e.g. the process of making decisions on touristic products but also the products themselves: DIY tourism has appeared when planning is done by the consumers themselves – they make the product –, but this category also contains collaborative tourism in which the cooperation of groups gives a special character. The impact of sharing economy is palpable in a growing number of areas, by following new business models, transforming tourism among other things.

The parallel operation of the consumers *in the real and virtual space* means the experience of the two terminal points in a new way, with new intensity. While formerly virtuality meant making our fantasy work, or working with internal, mental images – interpretable in the concept of imagery –, today we experience significant part of our virtual life by the use of tools, much more widespread than formerly. As we can see countless of ready visual material in virtual reality (films, photographs, animations etc.), also, we can make them on our own and so we feel more and more familiar in the virtual world, we must mention the growing importance of *visuality*.

The spread of *ecological thinking*, eco-themes, sustainability comes for the female sensitivity; this process was initiated by women and is still them who represent it primarily with their thinking, needs and shoppings. Operation with zero emission and waste is now a fashion, as is preference for local products and services.

The newly spreading *individualism*, the appearance of ‘I’ celebrities shows that everybody wishes to demonstrate the importance of their life stories, and besides visual demonstration narratives,

storytelling are appreciated. The Gender-Travelling supply that is tailor-made or adjusted to demands of special groups is linked to this megatrend.

*Health* may be the most influential megatrend that determines the choices of people in several ways. Medical tourism has diverse forms, solutions and volumes, heading for success. A connected issue is the relation to the *body*, which is the inspiring element for the creation of several niche markets. The focus on sportivity, on physical exercise can be seen in either jogging tourism or pilgrimage, a form of tourism that is supplemented with spiritual content.

The desire for *safety* is growing, for many this is the motivation of the choice of virtual, hyperlocal, and slow tourism. New experiences are offered by drone tourism, which, although not enjoyed in the virtual space in most of the cases, will safely guide to getting to know places of perspectives that have been invisible for humans so far, or if they were visible, the ones who saw them were in real danger, e.g. by following volcanic eruptions. Now there are articles written on homelidays: “tourism” at home, without stress and travel.

We could go on listing fundamental changes and their impacts on our lives, but we think this is enough for provoking thoughts.

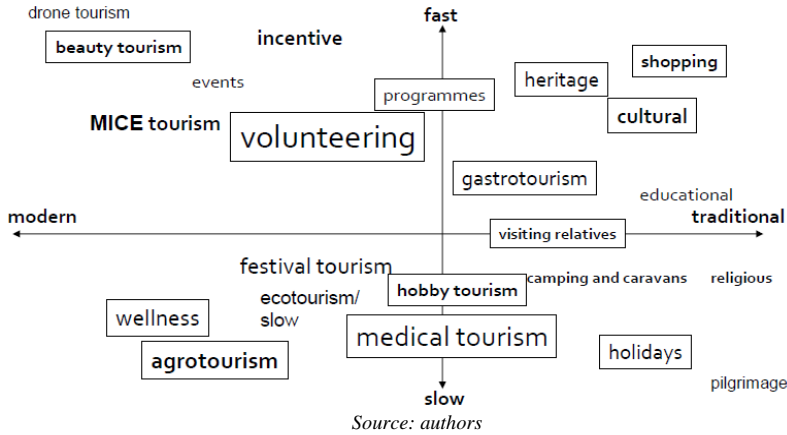
### **1.3. Tourism product classification built on pace of life**

If we look at our relationship to time, the pace of life as a decisive factor, we should pay special attention to this aspect; we may even build the grouping, categorisation of touristic products on this ground. We can see in literature efforts aiming at groupings. Michalkó in his work, for example (Michalkó 2011) distinguishes three large groups of touristic products: space-specific, group-specific and activity-specific tourism product groups. This classification, is a single-dimension one but still gives ideas for categorisation, the grabbing of common features. It is also characteristic of this classification that the same product can be put simultaneously into two or even all three specified groups – let us take a real example, e.g. mountain tourism that is chosen by the 50+ group for rehearsing mountain rescue, and the whole supply package is built around that. It is comforting that other authors have encountered the same problem as we are facing.

We can also experience that the dimensions of examination may change over longer periods, as shopping and consumption habits also change. People often think in terms of cheap-luxury, or mass-individualised dimensions, or recently in the comparison of online-offline, self-organised-others-organised programmes. These dimensions also make a coordinate system into which tourism product could be classified. We, however, propose the consideration of a two-dimensional model in the framework of this paper that follows the above-analysed logic of value orientation and pace of life (see in Figure 2).

We believe that the tourism products classified into the respective quarters must be created and communicated in different ways, as this is a way to adapt to the demand of the customers in the different quarters. We have indicated that it is difficult to unambiguously classify the respective tourism product, as e.g. cultural tourism may mean a rapid urban sightseeing tour on a weekend and a one-month journey in India that is more in the slow dimension. Still it is necessary to have a stereotypical approach to the classification, making that on the basis of the characteristics most typical of the given product.

**Figure 2** Classification of tourism products in the dimensions of pace or life and value orientation



## 2. Slow tourism

As we have mentioned, the borderline between slow and fast activities gets more and more blurred. Nevertheless there are activities that stereotypically are definitely in the category of slow tourism: such tourism products are rural or agritourism and medical tourism where the typical length of stay exceeds by far the duration of other holidays – in medical tourism cures often last for two weeks and in rural tourism too the average length of stay is over a week. Pilgrimages are very slow by their nature, as managing large distances on foot takes weeks, sometimes months – doing the whole length of the El Camino of the Mary Road is anything but a fast activity. Traditional 3S (sun, sea, sand) holidays are in the slow category, as typical turns in seaside resort are for a week at least. Cruise tours are a week, several weeks or even several months long – another activity that can only be done slowly. Most people devote enough time to their hobbies: a hunting, angling or skiing tour, or a bicycle tour usually lasts for several days, although these activities can be accelerated as well: angling can be done for a weekend or even one day (in fact, even shorter: in some Western European cities like Amsterdam or Paris a new form of angling, “street fishing”, angling done for an hour or two in congested urban centres is gaining popularity) and bicycling is possible on a weekend as well. Festival usually last for several days, see e.g. one of the most popular festivals in Europe, the Sziget – “Island” – festival in Budapest, but it is not obvious that each visitor to a festival will be a guest for the whole duration of the event. Ecotourism is a special kind of activity: a dedicated ecotourist who wishes to witness a special event of nature or want to take a well composed photograph may have to wait for days until the circumstances are perfect – not to mention the fact that most ecotourism destinations are far from the countries of origin, and the length and duration of the journey makes longer trips worthwhile, only. Camping and caravanning is a lifestyle – whoever wants to set up a tent to spend a day or two, only, in a camping site? This is also an activity that usually takes longer time to pursue.

Rural tourism is a special case. This activity (which has many names and approaches from village tourism to agritourism) originally meant spending longer vacations, at least two weeks in a tranquil rural environment and accordingly was popular especially with urban citizens who wanted to get away from the hectic lifestyle of congested cities. The German expression for this activity – Urlaub

am Bauernhof, “Holiday at a peasant farm” – revels that it is taking part in the life of a rural family, participating in agricultural activities the pace of which is much slower than that of the urban life. Recently, however, the product range of rural tourism has become specialised and there are activities now that can be pursued in the framework of rural tourism, in rural areas and are still much faster than the traditional pastimes of rural tourism: a one-day equestrian trip, a wine tasting session at a rural farmer or visiting a village museum or folk event is possible within a few hours, maybe a day (Szabó, G. 2011).

Ecotourism covers just as diverse activities as rural tourism. The original definition of this activity by IUCN (International Union for the Conservation of Nature), “environmentally responsible travel to natural areas, in order to enjoy and appreciate nature (and accompanying cultural features, both past and present) that promotes conservation, have a low visitor impact and provide for beneficially active socio-economic involvement of local peoples” suggests that nature-based activities, especially the watch of wildlife take longer time than most other touristic activities do (Fennel. D. A. 2002). However, with the rapid development of ecotourism the range of ecotouristic activities has been diversified, and now tourists interested in this kind of activity can choose between several-day bird watch and photography tours and elephant-back jungle tours as well as one-day visits to ecotouristic visitor centres or hiking on ecotouristic study paths.

Religious tourism can also be categorised as slow tourism, especially if the visiting of sacred places takes longer time (the Hajj to Mecca and Medina in Saudi Arabia, the pilgrimage of Christian believers to Rome or Jerusalem, the travel of Hindu believers to the Ganges River), and spiritual experiences also take time – a journey for several days or even weeks on the El Camino or the Mary Pilgrimage Route is a different experience than visiting a sacred place, a devotional church.

### **3. Fast tourism**

Acceleration of the pace of life is a trend of our time. Not only we live faster but also want to get everything immediately – in today’s technologically sped up world we do not want to wait, we want to consume and enjoy faster. This has implications for the tourism sector as well.

A typically fast touristic activity is business tourism. Businessmen are “busy”, for them the saying “time is money” is actually truth – MICE tourism (meetings, incentives, conventions and exhibitions– a commonly used specification for business tourism) prefers solutions that economise with time. MICE tourism means trips where everything is related with work. Thus the traveller is travelling during working hours, in interest of the employer and the expenses are covered by the employer – and the employer will probably try to keep costs low, also by the control of the time of the business travel. Average duration of a business meeting is no longer than 1.5-2 days, fully occupied by the professional programmes. Business meetings are often followed by company programmes. Business meetings are therefore often held in traffic junctions, often in the direct vicinity of airports – or at the airports, actually – and catering is usually provided in-house, at the venue of the programme. With our globalising world we can expect the continued flourishing of business tourism – although technology now allows the replacement of face-to-face meetings with video-conferences in many cases, the human touch will probably remain important in business life in the future and so business-induced travels are expected to continue in the future.

More than of the global population now lives in towns and cities, in the most industrialised countries many of which are the major areas sending out tourists and also the largest tourism destinations, this proportion is well over seventy of eighty per cent. Urban tourism that has always been very important in history keeps its positions in the modern times as well: the mega-events are almost exclusively held in cities, the largest concentrations of the economy and transport are in cities, so towns and cities benefit from practically all forms of tourism, even the ones that are definitely linked to rural or more remote and sparsely populated areas (agrotourism or ecotourism, for example). The touristic behaviour of the city tourists, i.e. their activity in the destination has



several special characteristics. City tourists consume a space that is the most intensively used living space, and a very important element of the behaviour of city tourists is related to time: city tourism is one of the tourism products generating the shortest length of stay. As opposed to holiday tourism often reaching 6 to 7 nights, in cities guests rarely spend more than 2 or 3 nights, but stay of less than one day are also typical. Tourists involved in the latter category are often called hyper-tourists by some experts, as they practically rush across the cities of their choice.

In the tourism product, in addition to basic infrastructure, the attraction itself and the primary suprastructure of tourism (accommodation and catering), the secondary suprastructure is becoming more and more important, as these are the services that make the stay of the tourists more enjoyable, and therefore enhance experience (Michalkó, 2012). The number one of these services is shopping; a very important auxiliary tourism service that in fact can be the primary motivation of travels as well. Shopping rarely takes more than a couple of hours and so is one of the most typical “fast tourism” activities.

Cultural tourism is another activity that fits into the category fast tourism – although there have been some cultural tourism forms that are anything but fast in history, just think of the Grand Tour that lasted for years in the beginning and several months even in its “light” version. Culture is a very broad category and cultural tourism can mean culture manifested in everyday life (the experience of which takes longer time and so this facet of cultural tourism might even be slow), but most typically is visiting historical centres, churches, fortresses, castles, museums – doing “sightseeing” – or participation in programmes, the enjoyment of animated culture. The visit to most cultural sights or participation in such events does not take days – of course one can spend days or weeks in museums like the Hermitage, the Louvre, the Prado etc., but this is very rare –, they are typically programmes that tourists manage within a couple of hours and even if several cultural attractions are used to make a complex programme package, the “consumption” of the individual attractions is typically done under the constraint of time, as the scheduled programme does not allow delays. Exceptions from this may be theme routes, the experience of which may take days that is more nowadays that the average durations most tourists devote to a journey (Gonda, T. – Raffay, Z. 2015).

Although eating fast may not be a very healthy way of gastronomy, our eating habits have accelerated just as our lives have. Gastrotourism and enological (or wine) tourism have a growing popularity. Catering is the second most important part of the tourism products after accommodation, but is rarely the primary motivation of travels, much more typically an auxiliary service in travels with other motivations. It is well possible that somebody visits a country to try all restaurants with Michelin Stars, or goes to a wine route to use of all the services and visit each service provider – but much more typical is that a wine tasting session or a dining event is only part of a journey, an optional programme or something that is done within a limited time framework so that more time is remaining for other programmes.

Beauty industry is a thriving business nowadays and has lead to the birth of beauty tourism. In Budapest alone clinics have hundreds of thousands of foreign visitors each year – guests in need of a dental treatment or cosmetic dentistry, cosmetic surgery and rejuvenating treatments or laser eye vision corrections typically spend not more than a few days in the destination – where, between two treatments, they take place in other “fast” forms of tourism such as urban sightseeing, a visit to a wine cellar or cultural events like concerts of museum visits.

#### **4. Blurred lines – can we always say with precision if a touristic activity is slow or fast?**

The obvious answer is that we cannot. There are many touristic activities that can be done both slowly and fast – a museum visit can be a rush across the halls and an in-depth study of the exhibited objects or the compositions of paintings; dining can be done in a fast food restaurant and can be made an experience if one visits a show kitchen where watching the preparation of the dish

is part of the experience, or takes part in a gastronomy festival where it takes several hours for the meals to be ready. A sport tour can be a weekend trip to a sport event for either active participation or as a spectator, and can be a two-week ski trip (Marton, G, 2015). An angling tour can be a few hours spent on the shore or a nearby lake and a long tour in an exotic and remote destination; cycling is possible to a nearby destination where the journey, the experience and the travel back together make a few hours, only – and can be a several-week experience across many countries. Different segments of tourism have different amounts of time for travel; pensioners can probably devote more time to their tourism experiences than working age tourists. Different interests will also influence how much time one devotes to the specific touristic activities. We can say then that apart from a very few clear cases, there is no sharp separating line between fast and slow tourism activities.

## REFERENCES

Boyd J. – Zimbardo Ph. (2010): *The Time Paradox: Using The New Psychology of Time to Your Advantage*. Rider

Eriksen Th. (2001): *Tyranny of the Moment: Fast and Slow Time in the Information Age*. Taschenbuch

Fennel, D. A. (2002): *Ecotourism. An introduction*. Routledge, New York Gonda T., Raffay Z.

(2015): *Theme routes in tourism and spatial development*. Transylvanian Journal of Tourism and Territorial Development 1:(1) pp. 19-26.

Happ É. – Husz A.: MICE tourism. *Products and product specialisations in rural tourism*. [http://www.eturizmus.pte.hu/szakmai-anyagok/Design and development of touristic products/book.html#d6e4574](http://www.eturizmus.pte.hu/szakmai-anyagok/Design_and_development_of_touristic_products/book.html#d6e4574)

Helmke St. - Scherberich J. U. - Uebel M. (2016): *LOHAS-Marketing: Strategie – Instrumente – Praxisbeispiele*. Springer Gabler

[http://www.budapestinfo.org/health\\_and\\_beauty.html](http://www.budapestinfo.org/health_and_beauty.html)

[http://www.eturizmus.pte.hu/szakmai-anyagok/Design and development of touristic products/book.html](http://www.eturizmus.pte.hu/szakmai-anyagok/Design_and_development_of_touristic_products/book.html)

Kahneman, D. (2011): *Thinking, Fast and Slow*. Farrar, Straus and Giroux, New York

Levine R. (1997): *Geography of Time: The Temporal Misadventures of a Social Psychologist, or How Every Culture Keeps Time Just a Little Bit Differently*. Basic Books, New York

Marton G. (2015): *Sportturizmus (Sport tourism)*. PTE TTK Sporttudományi és Testnevelési Intézet, 141 p.

Michalkó G. (2011): *The tourism product*. [http://www.eturizmus.pte.hu/szakmai-anyagok/Design and development of touristic products/book.html#d6e34](http://www.eturizmus.pte.hu/szakmai-anyagok/Design_and_development_of_touristic_products/book.html#d6e34)

Michalkó G. (2012): *Turizmológia (Tourismology)*. Akadémiai Kiadó, Budapest

Szabó, G. (2011): *Products and product specialisations in rural tourism*. [http://www.eturizmus.pt.e.hu/szakmai-anyagok/Design\\_and\\_development\\_of\\_touristic\\_products/book.html#d6e402](http://www.eturizmus.pt.e.hu/szakmai-anyagok/Design_and_development_of_touristic_products/book.html#d6e402)

Töröcsik M. – Szűcs K. (2004): *Tempo-based lifestyle segmentation: Theoretical framework and empirical experiences in Hungary*. In: José L Munuera (ed.) Worldwide marketing: 33<sup>rd</sup> EMAC conference proceedings. Murcia: [s. n.], 2004. p. 8.

Töröcsik M. (2007): *A tudatos fogyasztást és az egészséget preferáló új fogyasztói trendcsoport, a LOHAS csoport megjelenése Magyarországon (Appearance of the new consumer trend group with a preference for conscious consumption and health: the LOHAS group in Hungary)*. Élelmiszer, Táplálkozás & Marketing, 4, 1, 41-45. o.

**Željko Rička, PhD., associate professor**  
Faculty of Economics – University of Zenica  
Zenica, 72000  
Phone: ++387-61-201-308  
E-mail: revicon.tz@gmail.com

**Almir Alihodžić, PhD., associate professor**  
Faculty of Economics – University of Zenica  
Zenica, 72000  
Phone: ++387-61-337-698  
E-mail: almir.dr2@gmail.com

## **LIQUIDITY MANAGEMENT BY ESTABLISHING FACTORING MARKET IN BOSNIA AND HERZEGOVINA**

### **UPRAVLJANJE LIKVIDNOŠĆU USPOSTAVLJANJEM TRŽIŠTA FAKTORINGA U BOSNI I HERCEGOVINI**

#### **ABSTRACT**

*The consequences of the economic crisis in recent years have significantly reduced domestic and international demand. With a rigid monetary system of the currency board and the deterioration of the economic performance of economic entities, credit expansion is being limited, and, despite the extremely high liquidity, this makes it difficult to access funds for financing of businesses, particularly in the case of short-term financial sources. In addition to traditional banking products, companies may use different instruments to finance their transactions, without the intermediary role of banks. These instruments include factoring. Factoring is a very common form of financing in the world, which is based on the purchase of receivables by the seller on the basis of goods sold with deferred payment or credit to the customer. Factoring can ease the problem of insufficient information openness in borrower's business environments that have weak information infrastructure if factors develop a proprietary database. The legislation in Bosnia and Herzegovina and surrounding regions has just begun the process of activating this specific form of financing. Bearing in mind the development of traditional business ties among countries in this community, it is expected that factoring can significantly contribute to increasing trade, increasing the turnover coefficient and thus GDP growth, thanks to more efficient financing and the fact that international factoring is legally equated with domestic factoring. The main objective of this paper is to review the legal basis for the use of mechanisms factoring in Bosnia and Herzegovina and the surrounding region, institutional basis for the implementation of a factoring contract and the estimated effects of the use of factoring in terms of increasing the degree of liquidity of economic entities and increasing the turnover coefficient.*

**Keywords:** *factoring, the factor, factoring companies, financing, assignment, discounts, insurance billing, collection of receivables*

#### **SAŽETAK**

*Posljedice ekonomske krize proteklih godina su značajno smanjile domaću i međunarodnu potražnju. Uz rigidni monetarni sistem Valutnog odbora i pogoršanje ekonomskih performansi privrednih subjekata dolazi do ograničenja kreditne ekspanzije, pri čemu se, i pored izuzetno*

visoke likvidnosti banaka, otežava pristup sredstvima za finansiranje privrednih subjekata, posebno u slučaju kratkoročnih finansijskih izvora. Osim tradicionalnih bankarskih proizvoda preduzeća mogu koristiti različite instrumente finansiranja svojih transakcija, bez posredničke uloge banaka. U ove instrumente spada i faktoring. Faktoring predstavlja vrlo prisutan oblik finansiranja u svijetu, koji se zasniva na otkupu potraživanja prodavca po osnovu prodate robe na odgodu plaćanja ili na kredit kupcu. Faktoring može olakšati problem nedovoljne informacione otvorenosti zajmoprimca u poslovnom okruženju sa slabim informacionim strukturama, ukoliko faktori mogu razviti vlasničke baze podataka. U zakonodavstvima Bosne i Hercegovine i regije, tek je započet proces aktiviranja ovog specifičnog oblika finansiranja. Imajući u vidu razvijenost i tradicionalne poslovne veze među državama bivše zajednice, za očekivati je da faktoring značajno može doprinijeti povećanju robne razmjene, povećanju koeficijenta obrta a time i rasta BDP zahvaljujući efikasnijem finansiranju, i činjenici da je međunarodni faktoring zakonski izjednačen sa domaćim. Osnovni cilj ovog rada je sagledavanje zakonske osnove za korištenje mehanizama faktoringa u Bosni i Hercegovini i regiji, institucionalne osnove za provođenje faktoring ugovora i procijenjeni efekti primjene faktoringa na planu povećanja stepena likvidnosti privrednih subjekata te povećanja koeficijenta obrta.

**Ključne riječi:** faktoring, faktor, faktoring društva, finansiranje, cesija, diskont, osiguranje naplate, naplata potraživanja

## 1. Introduction

Factoring is an important way of financing, both large corporations and small and medium enterprises, which is based on the purchase of receivables arising from the seller to the buyer of goods sold. Factoring in its essence represents the payment to the client's claims against third parties, the collection of these receivables from third parties and the performance of others, related to this, services trade and financial transactions for a fee. Therefore, factoring is a financial technique is suitable for exporters and domestic entities which allow greater competition in sales to customers in the domestic and international markets. Used in short-term financing business turnover in the domestic market and imports/exports through special organizations (factors), which the customer must submit for approval all of invoices prior to the delivery order. Factor continuously examines the creditworthiness of the customer before undertaking any obligation to pay for their service charge fee.

Financing of most companies and SME sector in Bosnia and Herzegovina is based on bank lending applied rigid a system of defined rules that favored the provision based on material forms of protection (mortgage, pledge, promissory notes, etc.) which puts the spotlight on the creditworthiness of the company (natural person) and only in the background is a job that provides income. Anyway, a company primarily in the SME sector, due to the requirements for a high level of loan collateral have limited ability to access credit funds. According to the Agency for Statistics of Bosnia and Herzegovina, the structure of 34.586 Bosnian companies make up 75.0% of micro-enterprises (0 - 9 employees), 18% of small businesses (10 - 49 employees), 6.0% medium enterprises (50 - 249 employees ), while the share of large enterprises (250 and more employees) only 1.0%.

In Bosnia and Herzegovina and throughout the region to express the bank-centric financial systems, with the absolute dominance of banks in the financial system and poorly developed structure of other financial intermediaries. Legislation factoring operations in the countries under analysis (Republic of Serbia, Croatia, Bosnia and Herzegovina) in most of the mutually aligned, and operational application of the law throughout the region does not pose any obstacle to the successful functioning of factoring. (Factoring Law, Official Gazette of the Republic of Serbia

62/13; Factoring Law, Official Gazette of the Republic of Croatia, No. 94/14; 85/15; Factoring Law Draft Law on Factoring, December 2013.).

Certain differences exist in the amount of registered capital for the establishment of companies and factoring in the length of the period of receivables prior to maturity and the supervisory authorities. Therefore, the main objective of this paper is to discuss the possibility of applying the concept of factoring in B&H in order to increase the liquidity of the private sector.

This paper is structured in four parts. The first part refers to the introductory considerations. The second part treats the problem of financing small and medium enterprises. The third part relates to the possibility of applying factoring in B&H with regard to certain countries in the region. And last part of the paper refers to the concluding observations.

## **2. Financing SME sector**

SME sectors around the world account for the most significant number of employees or in relation to the large companies that possess significant assets far harder to obtain loans, which are necessary for their working capital finance and development. Problems identified lack of access to credit, to the extent that this is necessary for the growth of the SME sector and through him and to economic growth, encourages change in access to credit. There is a noticeable trend to increase lending secured by a lien on a functional approach to funding based on the activation of the available assets in transferable function of providing loans. (Doing business 2015., A World Bank Group Flagship Report, International Bank for Reconstruction and Development / The World Bank, 2014).

Financial support to SME sector is a topic of wide discussion, first of all, given the fact that the SME sector is the backbone of the increase in employment. Confirmation of this we find in Bosnia, in July 2015., in section G (wholesale and retail) employed persons was 127.869, and in section C (Manufacturing) 140.446 persons, which is 37.6% of total employed persons (714.003) in all 19 areas of employment. By comparison, it is employment growth only in these two areas (compared to July 2012) amounted to 8.899 employees.

Traditionally, banks in financing enterprises and especially SME sector companies, as well as methods for managing of credit risk, usually applied: the requirements for a high share of equity potential borrowers, the requirements for provision of collateral, loan guarantees, and rigorous credit conditions defined in the loan agreement (Bakker, M., Klapper, L., Udell, G. 2004). Although SME sector depends on bank lending, particularly in the bank-centric countries, traditional bank financing can be inappropriate in certain phases of the life cycle of the company. For this profile companies often require significant resources to finance projects with high growth prospects, while the possibility of making a profit, it is often difficult to predict. This approach limits the financing of development opportunities in newly launched businesses that rely on intangible assets and a business idea, but that can hardly provide collateral to cover the loan debt in traditional relationships.

It should expand the range of forms and instruments of funding that will be available to the SME sector in order to stimulate faster growth and realization of innovation and employment. The newer approach to financing SME sector is based on the individual forms of assets, particularly in the form of intangible assets in the form of claims that can be transferred and serve as security conditions for lending (Asset-based finance) (OECD, 2015).

Finance, based on the property, including the use of various forms of investment assets for loans, factoring, financing based on the 'supply chain', through the efforts of commodity delivery, invoices, leasing and the like. This model differs from traditional debt financing, given that the company provides financing based on the value component of assets and not on the basis of its own creditworthiness. In this concept, working capital and long-term loans provided the assets, such as accounts receivable, inventory, equipment and real estate (OECD, 2015).

The key advantage of financing based on assets is that companies can quickly provide the necessary financial resources to get them under more flexible conditions than the conventional bank loan, regardless of their financial indicators and future cash flow. Furthermore, access to financing is secured and companies that do not have a credit history or even have reported losses. In addition, investors in this approach generally do not require any personal guarantee of the entrepreneurs nor a certain level of capital.

### 3. Factoring - funding mechanism based on property

Changing the approach to financing SME sector, an increase of share financing on the principle of "supply chain" through the activation of intangible assets and receivables are the basis for the application of factoring as a mechanism to better access to SME sector financial resources. Factoring is the essence represents the payment to the client's claims against third parties, the collection of these receivables from third parties and the performance of others, related to this, services trade and financial transactions for a fee.

Factoring agreement is a contract in which the client undertakes factor (usually a bank) cede all claims arising from short-term contracts for the delivery of goods and provision of services, prior to their maturity (global assignment). At the same time, the factor undertakes, for a fee, to accept the offered job if it meets the client's payment capacity of debtors, informing the (notification) or without notifying debtors about this transfer, the risk of a debt collection bears or client or factor. The factoring business comes to a significant change in the balance of participants in the factoring companies, in relation to the financing through loans.

*Table 1 The impact of factoring on the balance sheet (example)<sup>1</sup>*

<b>Assets</b>	<b>Before factoring</b>	<b>After factoring</b>
A.Fixed assets and long-term investments	3.100	3.100
C.Current assets	6.500	500
B.D.E.Other	1.000	1.000
<b>Total assets</b>	<b>10.600</b>	<b>4.600</b>
<b>Liabilities</b>	<b>Before factoring</b>	<b>After factoring</b>
A. Capital	700	700
C. Long-term liabilities	3.300	3.300
E.Short-term liabilities	4.600	0
E.I.Short-term financial liabilities	2.000	600
A.B.D.F.G. Other	-	-
<b>Total liabilities</b>	<b>10.600</b>	<b>4.600</b>
<b>Indicators own financing in total liabilities</b>	<b>7 %</b>	<b>15 %</b>

*Source: Calculation by author's (Hypothetical example of changing the structure of balance sheet of the company after sale of short-term receivables to factor)*

<sup>1</sup>The example is based only on the basic groups of superior balance sheet.

Based on the presented examples, with the help of change of funding sources, the sale of receivables as a substitute for debt financing, comes to changes in the structure of financing in terms of an increase in the participation of their own funding. This change leads to a reduction in financing costs and the indirect effect of an increase creditworthiness of the entity. In addition to these effects, the company realized the income effect of the increase in the coefficient of crafts and a reduction of the bonding financial funds. From the above examples, it is possible to draw the conclusion that, by applying the model of financing, the use of factoring, improves the structure of funding-funding focused on their own short-term assets and thus increase the solvency and creditworthiness.

#### 4. Possibilities of factoring in B&H and certain countries in the region

Although, factoring for many years was known as an instrument in the financing of companies, the initiative for the introduction of factoring in Bosnia and Herzegovina is still in the draft Law on Factoring (Federation of Bosnia and Herzegovina). The adopted legal solutions, as well as the draft law on factoring in the Federation of Bosnia and Herzegovina, is based on the concurrent model. In this regard, the adoption of law in Bosnia and Herzegovina will create conditions for speeding up trade between countries and their geographical position naturally addressed, in the course of trade and in other business activities, with each other. Factors that determine the application possibilities of factoring in Bosnia and Herzegovina and the region are based on the characteristics of the financial system, the development strategy of the economic system, directions of trade and the need to increase the efficiency of business entities.

In the structure of the financial system of Bosnia and Herzegovina, the banking sector is represented with 87.35%, the insurance sector with 5.19% of assets in the structure of the financial system. The situation is similar in other countries in the region. Segment banking institutions in the financial assets of the financial system in the Republic of Croatia participates with 70% followed by pension funds with 11.9% and the insurance sector with 5.7% (Croatian National Bank, 2015, Banks Bulletin, No. 28.). The financial sector of the Republic of Serbia is the most bank-centric perspective in relation to Bosnia and Herzegovina and Croatia. The participation of banks in financial assets amounted to 92% at the end 2014 (National Bank of Serbia, 2014, Annual Report on Financial Stability)

*Table 2 Sectoral structure of loans, loans to non-financial companies and the share of loans in GDP (in million BAM)*

Years	Total loans	Loans to non-financial Private companies	Index	GDP	Total loans/GDP
1	2	3	4(3/2)	5	6(2/5)
2012.	15.213,9	7.437,2	48,8%	26.193,0	58,08%
2013.	16.405,0	7.521,2	45,8%	26.743,0	61,3%
2014.	16.887,7	7.383,5	43,7%	27.259,0	61,9%

*Source: www.cbbih.ba (Adjusted by author's)*

From the table above it can be seen that the system of financing companies predominantly based on bank lending, with over 50% of GDP, and with a tendency of growth as evidenced by the very limited role of other financial institutions, above all, the institutions of the capital market. With the launch of the factoring financial market would be enriched by new financial institutions, although in most, they were established by the banks, which the banks part of their resources focused on the financing of the factoring business.



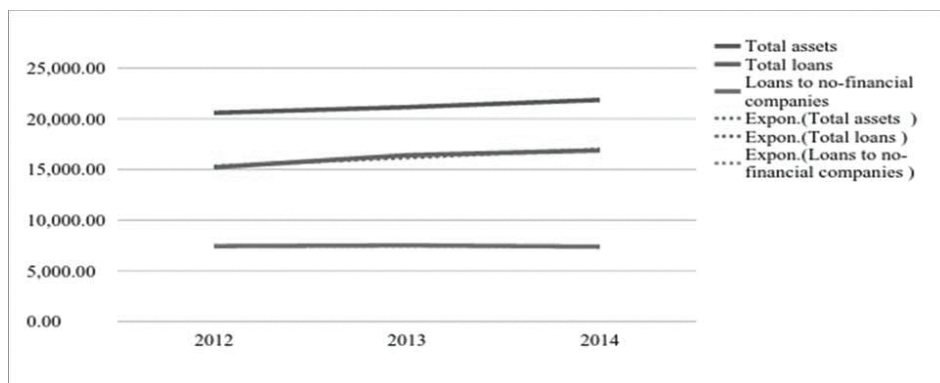
Also, as a result of frugidity, bank-centric financial systems have significantly increased the growth of non-performing assets, primarily loans with deteriorating trend due to limited access to companies, especially SME sector financial resources. The table below illustrates the tendency of movement of total assets, total loans and non-performing loans of the banking sector in BiH for the period: 2012 - 2014.

**Table 3** The assets and investments of banks in B&H for the period: 2012 – 2014 (in million BAM)

Years	Total assets of banks	Total loans	Non-performing of loans	Index
1	2	3	4	5(4/3)
2012.	20.587,14	15.213,9	1.791,64	11,8%
2013.	21.144,55	16.405,0	2.117,42	12,9%
2014.	21.861,65	16.887,7	2.375,64	14,1%

Source: [www.cbbih.ba](http://www.cbbih.ba) (Adjusted by author)

**Graph 1** The tendency of total assets, total loans and non-financial enterprises for the period: 2012 – 2014



Source: [www.cbbih.ba](http://www.cbbih.ba) (Calculation by author's)

Slow economic activity, as well as after the crisis effects are definitely had an impact on the decline in bank assets, and consequently the credit, because a certain number of foreign banks in B&H, they withdrew their deposits that were replaced by domestic deposits. Taking into account that credit risk is highly expressed in the total portfolio of the banking sector in BH, banks have refrained from granting loans which certainly influenced the decline in lending activity to the private sector (Graph 1). Rigorous conditions of hedging, defined regulations of regulatory authorities, the bank agrees to the application, the mathematical precision of reserves for potential losses by putting, in fact, in the background the market situation and conditions. Classification of loans in the category of non-performing loans reduces the creditworthiness of entities credited with limiting their access to credit facilities. At the same time, in a situation of declining creditworthiness are increased requirements of banks in terms of credit insurance instruments which continue to limit access to companies, especially SME sector. In terms of liquidity, the banking system of Bosnia and Herzegovina is highly liquid, where excessive liquidity threatens the profitability of the banking sector. The table below shows the movement of the average required reserves for the period: 2012 – 2014.

**Table 4** Average reserve requirements of banks in BH for the period: 2012 - 2014 (in millions BAM)

Years	Average reserve requirements	The average balance of the reserve requirements on account of the CBBH	Excess of reserve requirements
2012	1.258,0	2.711,0	1.453,0
2013	1.290,8	3.103,9	1.813,1
2014	1.370,1	3.577,8	2.207,7

Source: www.cbbih.ba

In the Republic of Serbia, at the end of 2014, gross non-performing loans were accounted for 21.5% of total loans in gross loans. This growth is the result of a larger percentage increase in total gross NPLs of the banking sector (26 billion, 421 billion, or 6.6%) compared with the growth of total gross loans which increased by 5.7%. If we consider the liquidity of the Republic of Serbia, then we can safely say that the banking system of the Republic of Serbia very liquid, because at the end of 2014, liquid assets covered 37.1% of total assets and 58.6% of short-term obligations. Also, if we consider the liquidity of the first order in the Republic of Serbia, it is in this context share in total assets and coverage of short-term liabilities amounted to about 29.0% and 45.8%. In Serbia, it is evident that the ratio of loans to non-financial companies presented with an index of 102.4, but is in decline compared to 2009 19.5%. At the same time liquid assets to total assets decreased by 14%, which indicates an increase in the liquidity of banks with declining profitability in 2013 and a slight recovery in 2014 (National bank of Serbia, 2014, The Annual Report on Financial Stability).

In the area of lending, in Croatia, we can see that the trend is due to the continuing long-term trend of growth of deposits and loans is falling, the ratio of loans and deposits for the domestic financial sector continues to decline. Such a trend indicates an increase in liquid assets of banks but also the need for banks to find a new business model for stronger private sector lending. At the same time, it is evident that the growth rate of coverage of credit risk (7.2%), but it is still relatively low compared to other EU countries.

Credit risk exposure was largely the result of growth in the share of short-term loans in new loans which raise the risks of refinancing for clients, and thus the return and credit risk at banks. The quality of corporate loans, like in the whole region unstable and the share of non-performing loans in this sector increased to 31.1% (Croatian National bank, 2016, Financial stability).

**Table 5** Import and export of goods in the region for the period: 2012 – 2014

Country	2012.	2013.	2014.
<b>Croatia</b>			
-import	2.203	1.956	1.852
-export	1.165	1.195	955
<b>Slovenia</b>			
-import	803	754	763
-export	653	687	698
<b>Serbia</b>			
-import	1.432	1.486	1.630
-export	710	767	801
<b>Montenegro</b>			
-import	56	36	72
-export	249	271	294
<b>Macedonia</b>			
-import	140	144	143
-export	194	93	94

Source: www.cbbih.ba

The structure of trade in the region indicates a high interdependence of business particularly companies related to repro chains. Traditional economic ties among the countries in the region point to a potentially large market liquidity factoring. Monetizing claims from mutual turnover shorten payment deadlines are independent of contractual terms which enables secure payment and increase trade. The additional potential is in the fact that large retail chains operate, for the most part, throughout the region and in the conduct of their operations, increase the mutual exchange of goods of countries without the classic foreign trade turnover.

The establishment proposed by factoring law provides an opportunity to banks to increase lending to factoring companies. In this regard, the banking system would be through factoring companies, part of the resources from the reserve requirements, created as an " excess " reserves required redirected to more profitable factoring contracts. *Factoring arrangements make it a possible shortening of the average period of payment, increasing the coefficient of trade receivables, thereby shortening the number of days bonding liquid funds which ultimately increases the efficiency of business operations.*

**Table 6** *The terms of payment for the countries in the region*

Country	Profit sector	Profit sector	Public sector	Public sector
	The average contractual period	The average delay in payment	The average contractual period	The average delay in payment
B&H	20	15	20	21
Croatia	30	24	30	32
Serbia	24	16	26	20
Slovenia	30	36	30	21

Source: [www.europsl.com](http://www.europsl.com)

According to the table above it is evident that the average duration of the payment process differs slightly in the region. Average contractual payment deadline is in the framework of EU standard of 30 days or is present and outputs a delay in the actual payment of an average of 23 days. This phenomenon is noticeable and other EU countries or, in any event, justifies the application of factoring in order to improve the dynamics of charge. Specifically, based on the structure of factoring companies in terms of their founders, their liquid capacity is far greater than the individual possibilities of the company, especially from the SME sector, especially in cases of irregular receivables. Turnover ratio is an indication of the efficiency with which the company deploys its assets, indicates how many times in a given period reverse certain types of funds in the company. In the case of a factoring contract, sales invoiced receivables turnover accelerates working capital.

In a situation where the seller / manufacturer has the opportunity (through factoring) to sell its claims from the customer before the expiration of the period of payment of days of binding customers decreased depending on the length of the previous billing period. Of course, the cost of factoring reduces the profits of each individual transaction or sound management of trade receivables through a shortening of the period of collection increases turnover ratio whereby both increased turnover ratio, contributes to the realization of large scale of the total number of units to be supplied and thus increases the sum total profit.

## 5. Conclusion

In modern financial systems, primarily in the segment of small and medium-sized enterprises, in a situation of the high bank-centered financial system all the frequent transformation of the system of

financing. The shift from the traditional approach based on the characteristics, the creditworthiness of the beneficiary exceeds the approach based on property types. Purchase rights of clients allow faster funding procedures with lower risk factors for creditors.

In this concept, the role of factoring is becoming increasingly important. Therefore, companies can pass strict banking criteria in certain circumstances rather factoring, thus preserving their property for situations when they need collateral for long-term loans and the financing of investment projects.

On its path of reforms in order to strengthen the economic power as one of the directions of the reform adopts the concept of a network of specialized factoring institutions. In this paper region is limited to countries with a high level of commercial trade establish legislation that is mutually agreed upon, and provides a good basis for efficient financing of the enterprise sector, especially the small and medium enterprises, creating the basis for an increase in the coefficient of trade and the total production of a country's rate increase GDP growth.

In support of the thesis that the market is becoming an important mechanism for accelerating the turnaround funds and thus to an increase in GDP in Bosnia and Herzegovina, mostly factors that characterize Bosnia and Herzegovina and the region as follows:

- *Almost absolutely banks-centric financial market with the rigid credit system and the rigorous regulations regarding protection against credit risk is limited finance companies, especially SME sector.*
- *A growing increase in non-performing assets of banks as a result of frugidity bank-centric financial system with the trend of deterioration due to limited access to businesses, especially SME sector financial resources.*
- *High liquidity rigid banking system with difficult access, the numerically dominant but not enough creditworthy of SMEs, which threatens the profitability of the banking system.*
- *Historical intensive trade in the region and traditionally high interdependence of enterprises related to repro lance.*
- *Chronic illiquidity SME sector, which factoring mechanism may contribute to the shortening of the average period of payment, increasing the coefficient of trade receivables, thereby shortening the number of days bonding liquid funds, which ultimately increases the efficiency of business operations.*

## REFERENCES

Agency for Statistics of Bosnia and Herzegovina (2015). *Announcement*, Unit Statistical Business Register, state 30.06.2015, Sarajevo, 22.09.2015. No. 4.

Bakker, M. R., Klapper, L., Udell, G. (2004). *The role of factoring in commercial finance and the case of Eastern Europe*, World Bank working paper.

Bakker, M., Gross, A. (2004). *Development of Non-Bank Financial Institutions and Capital Markets in European Union Accession Countries*, Working Paper No. 28, Washington D.C.

- Bjorn, B. (1995). *Factoring: A Comparative Analysis*. DJOF Publishing, Copenhagen
- D'Arcy L., Murray C. and Cleave B., S. (2000). *Export Trade*, The Law and Practice of International Trade
- Doing business (2014). *A World Bank Group Flagship Report*, International Bank for Reconstruction and Development / The World Bank
- European payment system (2014). *Intrum justitia*.
- Mikerević, D. (2013). *Šanse i zamke faktoringa u saniranju nelikvidnosti preduzeća i privrede*, ACTA Economica, godina XI, broj 18/2013.
- OECD (2014). *Study on Enhancing Financial Accessibility for SMEs Lessons from Recent Crises*, Asian Development Bank.
- OECD (2015). *New Approaches to SME and Entrepreneurship Financing: Broadening the Range of Instruments*, The World Bank.
- The Central Bank of Bosnia And Herzegovina (2015). *Bulletin*, No. 1/2015.

**Ermina Smajlović, PhD, Associate Professor**

Faculty of Economics, University of Tuzla

Address: Univerzitetska 8, 75000 Tuzla

Tel: +387 61 725 948

e-mail: ermina.mustafic@untz.ba

**Mr Boro Ninić, dipl. oec**

BH Government of Brčko District – Finance Department

Address: Filipa Višnjica br. 5, 76100 Brčko Distrikt BiH

Tel: +387 66 694 649

e-mail: boro.ninic@hotmail.com

**DETERMINANTS OF SELECTION OF WELLNESS CENTERS AND  
SATISFACTION OF VISITORS**

**DETERMINANTE IZBORA BANJE I ZADOVOLJSTVA POSJETILACA**

**ABSTRACT**

*In a modern society, wellness tourism represents an especially important branch of the service sector. Wellness centers are no longer only healing centers, but also places for active rest and recreation. Selection of a wellness center, along with the visitor satisfaction, is determined by numerous factors. On one side, there are health services, as a primary function of a wellness center, and on the other side, there are additional tourist contents that impact their attractiveness. Especially in this segment, there is a need to research if health services or additional tourist content, offered by wellness centers, are more important to visitors. Therefore, the main aim of the research in this paper is determination of factors that impact the selection of a wellness center and visitor satisfaction. Through primary research, two groups of surveyed have been included. The first group consisted of thirty experts, who were questioned on the following criteria on wellness center selection: health services, recreation and sports activities, Spa & Beauty center, gastronomy, and proximity of other tourist attractions. The observed criteria have been graded by the experts in five resorts on the territory of Bosnia and Herzegovina: Wellness Center Dvorovi, Fojnica – Reumal, Gradacac – Ilidza, Teslic – Vrucica and Visegrad – Vilina Vlas. The data collected from the experts have been analyzed using the SAW method. The second group of surveyed consisted of sixty visitors to three wellness centers on the territory of Bosnia and Herzegovina, Wellness Center Dvorovi, Wellness Center Ilidza Gradacac – Wellness Center Teslic – Vrucica, and they have graded the same criteria as the experts did. The analysis of data collected from the visitors has been conducted through the application of the analytical-hierarchy process. The collected research results show that wellness centers in Bosnia and Herzegovina are still perceived mainly as health centers, but also that visitors, choosing between two wellness centers offering relatively similar health services, will chose the one that has a developed the additional tourist content, such as: wellness, gastronomy, recreational and sports activities.*

**Keywords:** wellness tourism, wellness center selection, visitor satisfaction

## APSTRAKT

*U savremenom društvu banjski turizam predstavlja izuzetno važnu granu uslužnog sektora. Banje nisu više samo lječilišta, nego i mjesta za aktivan odmor i rekreaciju. Izbor banje, kao i zadovoljstvo posjetilaca, determinisano je brojnim faktorima. S jedne strane tu su zdravstvene usluge, kao primarna funkcija banje, a sa druge strane tu su dodatni turistički sadržaji, koji utiče na njihovu atraktivnost. Upravo u tom segmentu otvara se prostor za istraživanja da li su posjetiocima važnije zdravstvene usluge ili dodatni turistički sadržaji koje banje pružaju. Stoga je osnovni cilj istraživanja u ovom radu određivanje faktora, koji utiču na izbor banje i zadovoljstvo posjetilaca. Primarnim istraživanjem obuhvaćene su dvije grupe ispitanika. Prva grupa se sastojala od se trideset eksperata, koji su ispitivani o sljedećim kriterijumima za izbor banje: pružanje zdravstvenih usluga, rekreacija i sportske aktivnosti, Spa & Beauty centar, ugostiteljsko-gastronomska ponuda i blizina ostalih turističkih atrakcija. Posmatrane kriterijume eksperti su ocjenjivali u pet banja na teritoriji Bosne i Hercegovine: Banja Dvorovi, Fojnica – Reumal, Gradačac – Ilidža, Teslić – Vrućica i Višegrad – Vilina Vlas. Podaci dobiveni od eksperata su analizirani primjenom SAW metode. Drugu grupu ispitanika činilo je šezdeset posjetilaca u tri banje sa teritorije Bosne i Hercegovine: Banja Dvorovi, Banja Ilidža - Gradačac, Banja Teslić – Vrućica, koji su ocjenjivali iste kriterijume kao i eksperti. Analiza podataka dobivenih od posjetilaca se vršila primjenom analitičko hijerarijskog procesa. Dobiveni rezultati istraživanja ukazuju da se banje u Bosni i Hercegovini još uvijek percipiraju prvenstveno kao zdravstveni centri, ali i da će posjetioci birajući između dvije banje koje pružaju relativno slične zdravstvene usluge odabrati onu, koja ima razvijen i dodatni turistički sadržaj poput: wellness ponude, ugostiteljske i gastronomske ponude, rekreacijske i sportske aktivnosti.*

**Ključne riječi:** banjski turizam, izbor banje, zadovoljstvo posjetilaca

### 1. Introduction

Wellness tourism represents one of the oldest branches of this branch. People have been visiting thermal mineral springs for health reasons before all, and then, for improvement of the whole psycho-physical state. The significance of these tourist destinations have not decreased yet. On the contrary, wellness centers have increased their significance over time, and their activity has expanded. Today, these are modern healing centers that ensure commodity in five-star hotels. Considering the fast and urban life-style, wellness centers have become real oasis of relaxation. Bosnia and Herzegovina has an enormous tourist potential that is not adequately used unfortunately. Jagged mountains, great number of rivers, canyons and lakes, as well as thermal mineral springs, enable a creation of a unique tourist offer. A large number of wellness centers and their extremely healing natural sources, along with an adequate promotion, would significantly impact the increase of income of tourism. Considering that wellness tourism has stagnated in the past twenty years, as did the whole economy of Bosnia and Herzegovina, it is important to consider the needs of visitors and to adapt these tourist destinations to those requests and desires.

In this paper, the main research focus is directed towards discovering the factors that impact selection of a wellness center and satisfaction of its visitors on the territory of Bosnia and Herzegovina. The aim of the research is to prove the impact of health services, as well as the additional tourist content, on the selection of a wellness center and visitor satisfaction. Under the additional tourist content, we will consider the following in this paper: wellness offer, beauty treatments, recreational and sports activities and cultural contents.

## 2. Theoretical Research Scope

A tourist destination is an areal unit that, along with its complementary tourist content, matches occupation of one or more segments of tourist users (Čivljak, Dobre, Rusković, 2004, 8). Visitor marketing, that is, tourist marketing, is a part of urban marketing that is directed towards the increase of recognizability of a destination in tourist and above national frames, and towards the increase of tourist turnover or the creation of such.

The World Tourist Organization (WTO) defines a tourist destination as a place that is visited during one's travels. Tourist destinations may be classified into several categories (Bešlić, 2009, 121): an ideal destination – that, on the basis of the SWOT analysis, points to the greatest number of opportunities and the least number of threats; speculative destination – one that has a low level of opportunities, but also a low level of threats; problematic destination – one that has a low level of opportunities, and a high level of threats.

It is important to emphasize that the benefits of tourism are multiplied for the whole country. The most obvious benefit of this branch of economy is seen in direct employment of population in hotels, restaurants, retail objects and transportation of passengers. The second, less obvious, benefit of tourism is the support to industries and occupations (income management counselling, tourism university professors, etc.) that are much more beneficial than the obvious employment possibilities, such as restaurant staff. The third benefit of tourism relates to the so-called multiplication effect considering that tourism expenditures also contribute to strengthening the local economy. Government use models of economy effects to estimate total income from employment in the context of consumption of goods and services that is the result of tourist multiplication. The fourth benefit of tourism are income taxes from tourism, on the local and the national level. The fifth benefit of tourism relates to promotion of export of local goods. It is estimated that 15 to 20 percent of total expenditures of visitors goes to gifts, clothes and souvenirs (Kotler, Bowen, Makens, 2010, 728).

According to the ESPA (*The European Spas Association*) definition, the word “spa – wellness center” represents a “mineral spring” or a “healing place where there is a spring”. Health tourism is greatly related to *wellness* industry, on the global market, that is based on treatments that include usage of water. European *wellness* centers have developed mostly on places of thermal and mineral springs and other natural factors that influence the increase of health, mainly physical health state. The fact that there is no clear definition of spa tourism, and the wide variance of what constitutes a spa even by spa industry trade bodies causes much confusion. Some deem water a fundamental component to a spa, while others make no mention of it at all in their definition. Some spas claim to be health-focused, offering services where the emphasis is on health maintenance and illness prevention in the form of exercise, healthy eating, and relaxation designed to harmonise body and soul. It can be argued that a spa could be defined as: “a place geographically based on mineral or thermal springs or seawater, or a fitness club that offers a variety of treatments, services, and facilities aimed at achieving medicinal or leisure benefits for its clients.” This definition encompasses the majority of the different views about spas; in particular the three main aspects: location, treatments and facilities provided, and the purpose of the visit (Tawil, 2011, 156).

Wellness centers had a primary healing role for a long time, however, in modern societies, their role is changing. Today, they increasingly provide additional services, along with their basic purpose of a healing center. These services bring great satisfaction to visitors. Earlier, wellness



centers were visited by people placed in hospitals that existed within the wellness center. Today, these are tourists accommodated in luxurious hotels with a whole range of medical support if it is necessary. With such approach, wellness centers have gained a new dimension and became tourist destinations, besides their primary role as a health center. Wellness tourism is regarded as a subcategory of health tourism. According to Kaspar, health tourism is the sum of all the relationships and phenomena resulting from a change of location and residence by people in order to promote, stabilize and, as appropriate, restore physical, mental and social well-being while using health services and for whom the place where they are staying is neither their principle nor permanent place of residence or work (Muller, Kaufmann, 2001, 3).

Factors generating increased demand for spa tourism include (Okech, 2014, 70): desire for people to become and remain fit and healthy, an active older generation, the continued search for the perfect body, increasing spend on health and beauty products and treatments to achieve perfect health.

The International Spas Association has defined seven types of *spa* capacities (Horwath, 2013, 7): club *spa* – its primary purpose is fitness, however it also offers a broad spectrum of professionally led daily *spa* services, *day spa* – a *spa* that offers daily professional services, this type is the most common in the Western Europe, *destination spa* – a *spa* with the main role to offer clients a possibility to choose, and this is related to improvement of lifestyle, as well as improvement of health state through professional *spa* services, *fitness*, educational programmes, that is, accommodation within the center, *spa* menu is on the special offer of services, *medical spa* – the primary role of this wellness center is providing a whole health and *wellness* service in the ambiance that integrates *spa* services with the conventional and special treatments and therapies, in this category, the greatest growth within the next ten years is anticipated because the demand for holistic medical treatments and therapies is growing, *mineral spring spa* – *spa* that offers natural mineral, thermal or other springs that are used in hydrotherapeutic treatments, this type of centers is the most typical for European *wellness* centers, *resort/hotel spa* – *spa* within a hotel or a resort that offers professional *spa* services, *fitness* and *wellness* components with a *spa* menu, this is the second largest of all seven categories, considering the fact that it was accepted by the hotel industry as a standard with the aim to increase profitability, but also for the growing preference of guests for such offer.

### 3. Overview of Researches Conducted Thus Far

When compared to other tourist segments, analyses of determinants of wellness center selection, behavior and visitor trends, they are still new and scarce. With that in mind, there still is no concisely defined term and concept of wellness, that is, *spa* industry. The opinions are still uneven about this branch of economy, because, before all, medical services and services that provide visitor satisfaction are much intertwined.

*Push* and *pull* factors impact wellness center selection. The basic argument advanced by the proponents is that tourist visitation to a particular destination is a function of the push and pull factors. Accordingly, the push forces constitute the internal emotional desires of the tourist including, medical, experience, adventure, relaxation and sport and fitness among others, whereas the pull factors are those forces that define the tourist choice of a destination (e.g. attractions) (Hasemi, Josoh, Kuimaris, 2015, 6).

If we consider a wellness center as a healing center, than the determinants of its selection are the following: a very long tradition of healing and rehabilitation, an expert medical team, modern diagnostic and therapeutic equipment, a relatively low price of accommodation and healing. On the other hand, if we consider wellness centers as tourist destinations, the following factors become important as well: *wellness* and *spa* offer, catering – gastronomic offer, preserved living environment, rich cultural-historical heritage, a large number of fun and cultural content.

A choice of a wellness center is significantly different from choice of other tourist destinations. Before all, we should have in mind that this is health tourism, and that all wellness centers are not adequate for all visitors because of their primary expertise. Some wellness centers are specialized for rheumatic illnesses, some for skin or other illnesses, which is again conditioned by natural springs in that area. According to Mueller and Kaufmann wellness hotels must have a comprehensive health infrastructure as well as a good guest-care range (Muller, Kaufmann, 2001, 4).

The main characteristics of wellness centers that visitors consider when making their choice are: concept, location, objects, design, staff, products and treatments. A concept represents a creation of wellness image that basically leans on the characteristics of location, cultural heritage, nature of the object itself, and nature of a guest. Proximity to major roads, harbors and airports, as well as business centers, positively affect wellness visitors. Surely, at the same time, the location should be approachable, but also secluded enough for visitors to enjoy their privacy and relaxation. Objects in wellness centers are designed with functionality in order to contribute to refreshment, relaxation, and revitalization of guests. The choice of materials and usage of natural elements contribute to creation of a warm and positive atmosphere that is necessary for rest and relaxation of guests. In European centers, it is very characteristic that medical staff is employed at wellness centers and this pours an extremely great trust in visitors. Wellness products and treatments are surely most important to visitors, especially if we consider wellness centers as medical centers. Also, services offered by a wellness center depend on the type of thermal-mineral water and core specialty. However, it is important to emphasize that wellness centers should additionally have a broad spectrum of other treatments in order to please their guests and ensure their return (Cohen, Bodeker, 2011, 67).

#### **4. Research Methodology and Results**

The research object in this paper is the impact of health services and additional content on wellness center selection and visitor satisfaction. During the research, the primary question was: “How great is the impact of health services on selection of a wellness center and how important is the additional tourist content?”.

On the basis of a clearly defined research object, the following research hypotheses have been set:

**H1:** Quality of health services offered by a wellness center primarily affects wellness center selection and visitor satisfaction.

**H2:** Additional activities and additional content ensure comparative advantage of wellness center in comparison to its competition.

The secondary research was based on a research overview of existing data and expert literature on the research object. Before all, articles that deal with the issues at hand were researched, as well as data that reveal relevant national and international institutions.

The primary research included two mutually conditioned processes. The first related to surveying thirty experts from the research field, who were chosen by intentional sample. The criteria used for selection of experts were knowledge of tourism and wellness potential in Bosnia and Herzegovina. The data collected from experts were processed by the application of Additive (SAW) method. Additionally, through an intentional sample, we have chosen three wellness centers, from the five observed ones, and we surveyed sixty visitors. The selection criteria of three wellness centers were geographical proximity and opinions of the surveyed has been collected through a questionnaire that consisted of two groups of question. In the first group, there were questions about general information about the surveyed, while, in the second group, the questions related to wellness tourism. On the basis of the second group of questions, we have tried to determine the reasons for visit to the wellness center, than criteria that the surveyed emphasize when selecting a wellness center, as well as performance rating of the observed wellness centers. Collected data was processed through the application of the Analytic Hierarchy Process (AHP method). Both researches have been conducted in September of 2015.

There are fifteen wellness centers registered as health institutions in Bosnia and Herzegovina today, and these have 3,455 beds available, and they realize about 200,000 overnight stays, which makes 23% of the total overnight stays in the country ([http://visitmycountry.net/bosnia\\_herzegovina/bh/index.php/turizam/banjski](http://visitmycountry.net/bosnia_herzegovina/bh/index.php/turizam/banjski)).

Each wellness center contains its specific criteria by which we may observe it. Some of them are more specialized for healing, while others are more intended for rest and recreation. For the purposes of this research, five wellness centers were chosen from the territory of Bosnia and Herzegovina: Wellness Center Dvorovi, Fojnica – Reumal, Gradacac – Ilidza, Teslic – Vrucica i Visegrad – Vilina Vlas. The following criteria of tourist valorization of the named banks were used in this research: ( $X_1$ ) – Offering health services, ( $X_2$ ) – Recreation and sports activities, ( $X_3$ ) – *Spa & Beauty* center, ( $X_4$ ) – Catering – gastronomic offer and ( $X_5$ ) – Proximity to other tourist attractions.

The weighting values have been determined for the observed criteria, after which they were analyzed by using Additive (SAW) methods. The represented coefficients have been determined on the basis of subjective opinion, and so their value is as follows:

$$X_1=0.25 \quad X_2=0.25 \quad X_3=0.15 \quad X_4=0.20 \quad X_5=0.15$$

According to the rating of a group of thirty experts, who hold exceptional knowledge of the observed research object, subjective grades were assigned for each wellness center. The grades represent a total number of points given by experts for the corresponding criterion. The grades shifted in the interval from one to five. Collected grades are presented in Table 1. It is important to emphasize that grades were presented in their sums, that is, grades from all experts were added together.

**Table 1** Expert Grades for Observed Criterion

<b>Wellness Center</b>	<b>X<sub>1</sub></b>	<b>X<sub>2</sub></b>	<b>X<sub>3</sub></b>	<b>X<sub>4</sub></b>	<b>X<sub>5</sub></b>
Dvorovi	110	102	85	102	100
Fojnica - Reumal	125	129	105	124	115
Gradacac - Ilidza	115	101	81	90	90
Teslic - Vrucica	132	135	140	139	105
Visegrad – Vilina vlas	128	119	102	121	130

Source: Authors

In the following step, value normalization of observed criteria is conducted, using the complex linear method. This is presented in Table 2.

**Table 2** Normalized Value of Observed Criterion

Wellness Center	X <sub>1</sub>	X <sub>2</sub>	X <sub>3</sub>	X <sub>4</sub>	X <sub>5</sub>
Dvorovi	0.00	0.00	0.07	0.24	0.28
Fojnica - Reumal	0.68	0.82	0.44	0.69	0.63
Gradacac - Ilidza	0.23	0.03	0.00	0.00	0.00
Teslic - Vrucica	1.00	1.00	1.00	1.00	0.38
Visegrad – Vilina vlas	0.82	0.52	0.36	0.63	1.00

Source: Authors

Following the criteria normalization, collected values were multiplied with their weighting coefficients. In this way, final individual values of chosen criteria for each wellness center were calculated. Through their addition, the total tourist values of observed wellness centers were calculated, and this is presented in Table 3.

**Table 3** Total Tourist Value of Wellness Centers

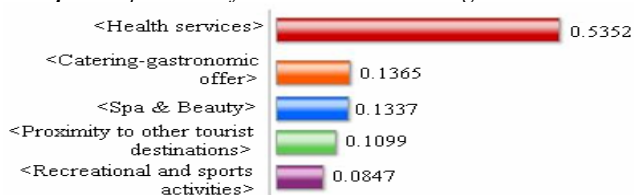
Wellness Centers	X <sub>1</sub>	X <sub>2</sub>	X <sub>3</sub>	X <sub>4</sub>	X <sub>5</sub>	Total (Value of the SAW method)
Dvorovi	0.00	0.00	0.01	0.05	0.04	0.10
Fojnica - Reumal	0.17	0.21	0.07	0.14	0.09	0.68
Gradacac - Ilidza	0.06	0.01	0.00	0.00	0.00	0.07
Teslic - Vrucica	0.25	0.25	0.15	0.20	0.06	0.91
Visegrad – Vilina vlas	0.20	0.13	0.05	0.13	0.15	0.66

Source: Authors

Using the Analytic Hierarchy Process, three wellness centers from the territory of Bosnia and Herzegovina were analyzed: Wellness Center Dvorovi, Banja Ilidza – Gradacac and Banja Teslic – Vrucica. As is with the multi-criteria method of valorization, the same performances of wellness centers were observed.

During the research, tourists have been surveyed, and they had an opportunity to choose the most important criteria that impacted their wellness center selection. For 53.52% of the surveyed tourists, the most important criterion for wellness center selection is the health services. Then, catering-gastronomic offer is following with 13.65% part of the total surveyed population. Following this criterion is the *spa & beauty* offer that amounts to 13.37%.

**Graph 1** Importance of Criteria when Choosing Wellness Center

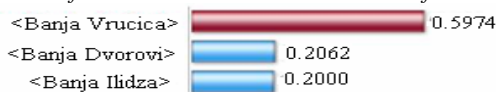


Source: Authors

Proximity to other tourist destinations as a criterion for wellness center selection is not positioned high, merely with 10.99% part in the observed research. As the least important motive for tourists are the recreational and sports activities, with the mere 8.47%. On the basis of collected results, we may rank criteria important for wellness center selection, and this is presented in Graph 1.

On the basis of observed parameters, and with the help of the AHP methods, we may rank wellness centers that have an optimal balance of observed criteria in their offer. Wellness Center Vrucica is ranked as the best choice, followed by Wellness Center Dvorovi, and Wellness Center Ilidza. The detailed representation is shown in Graph 2.

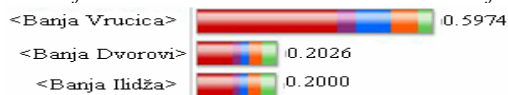
Graph 2. Choice of the Best Wellness Center on Basis of Observed Criteria



Source: Authors

Five observed criteria, shown in Graph 3., have taken a special part in wellness center selection. The structure of alternatives to choose Wellness Center Vrucica as an optimal solution are as follows: 35.68% health services, 4.66% recreational and sports activities, 8.91% *spa & beauty*, catering-gastronomic offer 6.83%, and proximity to other tourist destinations 3.66%.

Graph 3. Structure of Observed Criteria in the Final Selection of Wellness Center



Source: Authors

Structure of alternatives for Wellness Center Dvorovi is as follows: 8.92% health services, 2.03% recreational and sports activities, 2.23% *spa & beauty*, 3.41% catering-gastronomic offer, proximity to other tourist destinations 3.66%. Structure of alternatives for Wellness Center Ilidza is as follows: 8.92% health services, 1.78% recreational and sports activities, 2.23% *spa & beauty*, 3.41% catering-gastronomic offer, 3.36% proximity to other tourist destinations.

## 5. Conclusions and Recommendations

Taking into consideration the importance of tourism as an economy branch in the modern business ambiance, it becomes clear why destinations compete in attracting the greater number of visitors. Today, wellness center visitors are more and more focused on an active lifestyle, and in order to satisfy their need, great efforts are put in all spheres of business. Wellness centers have become places visited by people who wish to live actively and for a long time.

On the basis of primary research results and the determined total tourist values for observed wellness centers through Additive methods (SAW), it is possible to establish their rank, descending from greater to lower values. According to the observed criteria, we may rank wellness centers in Bosnia and Herzegovina in the following way: Teslic - Vrucica, Fojnica - Reumal, Visegrad - Vilina vlas, Wellness Center Dvorovi and Gradacac - Ilidza.

Having in mind the gathered results, we may conclude that expert consider Wellness Center Vrucica to offer an optimal set of health and tourist contents. That is, they consider that this is a wellness center that should also attract the greatest number of visitors. Further, on the basis of their opinion, the next ranked wellness center is Reumal, which also has available an extremely good medical and tourist content. Wellness Center Vilina Vlas has been ranked third by the experts. The fourth place was taken by Wellness Center Dvorovi, and the last place was taken by Wellness Center Ilidza. If we go back to the research results, and observe Table 1., as well as the assigned grades, we may conclude that health services in all observed wellness centers are ranked extremely high, and that only a thin line separated the first ranked from the others. The greatest number of points was given to wellness centers that had developed additional tourist content. We should keep in mind that the surveyed experts are employees in tourist organizations, and that they view wellness centers primarily as tourist destinations, and not as health centers.

Interpreting the research results, we may conclude that tourists visit wellness centers in Bosnia and Herzegovina mainly for health reasons. In our awareness, wellness centers are still health institutions, whose primary purpose is providing health services. However, wellness centers should be perceived in another way. They should be places for recreation, rest, and using *spa & beauty* programmes. Along with the healing characteristics offered by wellness centers, they should become oasis for finding peace and tourist satisfaction. Wellness Center Vrucica is currently one of the most developed wellness centers in Bosnia and Herzegovina. It offers the best interactive content, and that is why it is not questionable that it is in the first place. Even though, the observed wellness centers possess exceptional health services, for such success of Wellness Center Vrucica, the following additional contents of exceptional quality take credit: restaurant, *spa & beauty* center, wellness services, walking path, and decorated sports fields. In order for other wellness centers to become competitive, they should improve their tourist contents and to focus more on the spa offer than on sole medical offers. Accepting the observed criteria, that are the most important for tourists, it is possible to conduct a selection of the best wellness center. Using the AHP methods, as the best solution, Wellness Center Vrucica was imposed because it satisfies the greatest number of criteria, rating at 59.47%. It was followed by Wellness Center Dvorovi with 20.26% and Wellness Center Ilidza with 20.00%.

Considering the potential that Bosnia and Herzegovina has in wellness tourism in the following period, much attention should be given to this research object. A large number of wellness centers and thermal-mineral springs, as well as the expert and available capacities, create a significant potential for development of wellness tourism. Nevertheless, existing capacities and natural potentials in Bosnia and Herzegovina are not even close to be exploited. In this segment exactly hides the place for further research. We should systematically approach the research of the existing image in this tourist branch and recommend concrete measures for its improvement.

## REFERENCES

- Bešlić, V., (2009) **Kreiranje brenda Vojvodine kao turističke destinacije**, Magistarski rad, Univerzitet Singidunum, Beograd
- Cohen, M., Bodeker, G., (2011) **Understanding the Global Spa Industry**, Taylor & Francis, New York

Čivljak, M., Dobre, R., Rusković P., Ž., (2004) **Menadžment turističke destinacije**, Skripta, Viša škola za turistički menadžment, Šibenik

Hasemi, S. M., Jusoh, J., Kuimaris, S., Mohamadit, S., (2015) **Influence factors of Spa and Wellness tourism on revisit intention: The mediating role of international tourist motivation and tourist satisfaction**, International Journal of research – Grantaalayah, Vol. 3, Issues. 7, pp. 1-11

Horwath HTL, (2013) **Analiza stanja i mogućnosti za unapređenje zdravstvenog turizma u prekograničnom području Srbija – Bosna i Hercegovina**, Turistička organizacija regije Zapadna Srbija

Kotler, P., Bowen, T. J., Makens, C. J., (2010) *Marketing u ugostiteljstvu, hotelijerstvu i turizmu*, MATE, Zagreb

Muller, H., Kaufmann, E. L., (2001) **Wellness Tourism: Market analyses of a special health tourism segment and implications for the hotel industry**, Journal of Vacation Marketing, Vol. 7, Issues 1, pp. 2-13

Okech, N. R., (2014) **Promoting the Spa Tourism Industry: Focus on costal Resorts i Kenya**, Athenes Journal of Turis, pp. 67-77

Tawil, F. R., (2011) **Classifying the Hotel Spa Tourist: A Multidimensional Qualitative Approach**, International Journal of Humanities and Social Science, Vol. 1 No. 20, pp. 155-169

[http://visitmycountry.net/bosnia\\_herzegovina/bh/index.php/turizam/banjski](http://visitmycountry.net/bosnia_herzegovina/bh/index.php/turizam/banjski) (accessed November 2015)

**Vesna Škare Ožbolt PhD. student**

Faculty of Economics in Osijek  
vesna.skareozbolt@gmail.com  
tel. 00385 1 4830320  
fax:00385 1 3703360

**Ivan Herak, PhD.**

DIU Libertas International University Zagreb  
i.herak@yahoo.com

**Martina Herak PhD. student**

Faculty of Economics in Osijek  
m.herak@yahoo.com

**NAUTICAL TOURISM ON RIVERS ENCOURAGING DEVELOPMENT  
OF EASTERN CROATIA**

**RIJEČKI NAUTIČKI TURIZAM KAO POTICAJ RAZVOJU ISTOČNE  
HRVATSKE**

**ABSTRACT**

*While many citizens of Eastern Croatia are leaving the region due to the difficult economic situation and high unemployment, the interest of foreign tourists in visiting Slavonia and Baranja has been increasing. Most foreign visitors are boaters and tourists on cruise ships arriving to the easternmost part of Croatia on the Danube. Their interest opens new perspectives for the development of nautical tourism on rivers, and thus economic recovery of this part of Croatia. In order for Eastern Croatia to exploit this potential of river tourism, it is necessary to highlight important problems that slow down its development.*

*Of 500 cruise ships sailing on the Danube annually, only half of them stop in Croatia. During their stay in Croatia, passengers on river cruise ships usually go sightseeing and/or on excursions to the surrounding area. Passengers' consumption can be considered relatively modest in comparison with other destinations.*

*Croatian river-bank and its interior are, for many river tourists, completely unknown and unexplored destinations.*

*Along the banks of the Danube, Sava, and Drava, there are towns with historic cores and archaeological sites, nature parks and great cultural offer. Arrival of river tourists offers excellent opportunities for development of small and medium-sized enterprises, tourist rural households, tourism on family farms, traditional and protected crafts, and new jobs.*

*It is also necessary to ensure a sufficient number of tourist products. Pre-defined arrival and sizes of tourist groups provide excellent opportunities for development of small and medium-sized enterprises, tourist rural households, tourism on family farms, traditional and protected crafts.*



*Fostering the construction of Croatian river cruise ships would contribute to the development of river tourism and economy in general, especially since there are no registered river cruise ships made in Croatia in the Croatian Register of Shipping.*

*The state has still not recognised the potential of nautical tourism on rivers. None of the strategic development documents of the Republic of Croatia in the field of tourism, agriculture or river transport mention nautical and cruising tourism on rivers as an economic potential.*

*The aim of the paper is to define the development potential of this tourism segment, set goals, identify problems and opportunities, analyse the existing situation and the environment, and consider possible scenarios for positive outcomes of the project of river cruising development.*

**Keywords:** *nautical tourism on rivers, development, economy, Eastern Slavonia*

### **SAŽETAK**

*I dok brojni građani istočne Hrvatske zbog teške gospodarske situacije i visoke nezaposlenosti napuštaju svoj kraj, povećava se interes stranih turista za posjet Slavoniji i Baranji. Najveći broj stranih gostiju su nautičari i turisti na kruzerima koji stižu Dunavom u najistočniji dio Hrvatske. Njihov interes otvara nove perspektive u razvoju riječnog nautičkog turizma, a time i gospodarski oporavak ovog dijela Hrvatske. Da bi istok Hrvatske iskoristio potencijal riječnog turizma potrebno je ukazati na bitne probleme koji usporavaju ovaj razvoj.*

*Od 500 kruzera koji plove Dunavom godišnje u RH ih pristane tek polovica. Tijekom boravka u Hrvatskoj, putnici s riječnih kruzera najčešće odlaze u razgled grada i/ili na izlet u okolicu. Potrošnja putnika može se ocijeniti relativno skromnom u odnosu na druge destinacije. Hrvatska riječna obala kao i njena unutrašnjost je za brojne riječne putnike potpuno nepoznata i neistražena destinacija.*

*Uz obale Dunava, Save i Drave nalaze se gradovi s povijesnim jezgrama i arheološkim nalazištima, parkovi prirode i velika kulturna ponuda. Dolazak riječnih turista pruža izvrsne mogućnosti razvoja malog i srednjeg poduzetništva, OPG-ova, turizma na seljačkim gospodarstvima, tradicijskih i zaštićenih obrta i novo zapošljavanje.*

*Također je potrebno osigurati dovoljan broj turističkih proizvoda. Unaprijed definiran dolazak i veličine grupa turista, pružaju izvrsne mogućnosti razvoja malog i srednjeg poduzetništva, OPG-ova, turizma na seljačkim gospodarstvima tradicijskih i zaštićenih obrta.*

*Poticanje izgradnje hrvatskih riječnih cruisera pridonijelo bi razvoju riječnog turizma i gospodarstvu općenito, tim više što u Hrvatskom registru brodova nema upisanog niti jednog riječnog cruisera domaće proizvodnje.*

*Država još uvijek ne prepoznaje potencijal nautičkog riječnog turizma. Niti jedan strateški razvojni dokumenti Republike Hrvatske iz područja turizma, poljoprivrede ili riječnog prometa ne navodi nautički i crusing turizam na rijekama kao gospodarski potencijal.*

*Cilj ovog rada je definirati potencijal razvoja ovog segmenta turizma, postaviti ciljeve, identificirati probleme i mogućnosti, analizirati postojeću situaciju i okruženje te razmotriti moguće scenarije za pozitivne ishode projekta razvoja riječnog kruzinga.*

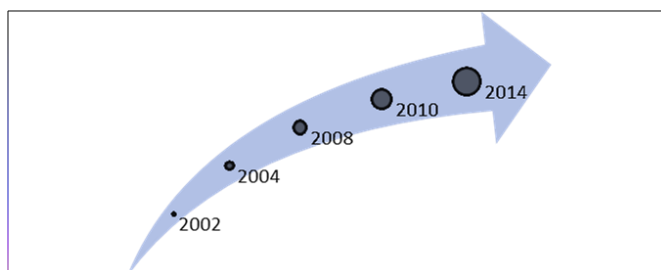
## 1. Introduction

Nautical tourism on rivers has in recent years developed into a potentially very profitable form of tourism based on a combination of boat trips and whole-day stay in each of the destinations visited during the cruise of several days. Tourists, usually of high purchasing power, are instructed to use tourist potentials of the location at which the ship docks.

River boaters use on average 2-3 vacations annually, and a river cruise is usually the second or third vacation. They usually come from urban areas, have higher or university education, are between 25 and 55 years old (couples are mostly represented in the age group 45-55, groups of friends in the age group 25-35, and individuals in the age group 35-45). River boaters want a vacation in a safe destination, while enjoying the beauties of the landscape and gastronomy (on the ship or shore), with a certain level of socialisation. They additionally want specific activities (visits to locations in the surrounding area, cultural and historical attractions), by which they rate the destination in order to return and possibly purchase another tourist product.<sup>1</sup>

**Figure 1** The number of passengers on international cruise on the Danube in Vukovar and Ilok 2014

2002 .	300 passengers
2004 .	8.000 passengers
2008	17.000 passengers
2014. .	33.000 passengers



Source: Data Port of Vukovar<sup>2</sup>

Demand for international river cruises has been continuously growing all over the world since 2010, and the greatest interest is in cruises along European rivers. In 2015, Europe was the best destination for river cruising, and of 10 most popular departure destinations, 9 were European ports Amsterdam, Budapest, Paris, Basel, and Nuremberg. Among the most visited tourist destinations are Vienna, Passau, Regensburg. The largest part of the market of nautical tourism on rivers refers to cruises through several countries, and according to statistics, Danube is the most popular river.<sup>3</sup>

<sup>1</sup>TravelMole:River cruise market reports growth 9.04.2016

<sup>2</sup> The study of the Port of Vukovar "International cruise on the Danube, trends, success factors and benchmark

<sup>3</sup> Forbes: Cruise Trends:WillThey hold in 2016?

The Republic of Croatia emerged in 2015 for the first time as a desirable destination for river boaters, with the tendency to become one of the top 10 countries in the world suitable for nautical tourism on rivers in the coming few years.<sup>4</sup>

**Table 1 Most Popular Cruise Regions<sup>5</sup>**

<b>Contemporary/Premium</b>	<b>Luxury</b>	<b>River</b>
<b>The Caribbean</b>	Europe	Europe
<b>North America</b>	Mediterranean	North America
<b>Europe</b>	North America	Asia - Far East
<b>Central America</b>	The Caribbean	Mediterranean
<b>Mediterranean</b>	South America	Russia
<b>South America</b>	South Pacific	South America
<b>Scandinavia</b>	Asia Far East	Africa
<b>Asia - Far East</b>	Africa	Middle East
<b>South Pacific</b>	Central America	The Caribbean
<b>Russia</b>	Scandinavia	Scandinavia

*Source: Forbes Travel: Cruise Trends: Will They Hold in 2016? 10.01.2016*

**Table 2 Most Popular Cruise Departure Ports<sup>6</sup>**

Ranked by the total number of quote requests for each departure port

<b>Contemporary/Premium</b>	<b>Luxury</b>	<b>River</b>
<b>Fort Lauderdale</b>	Miami	Amsterdam
<b>Miami</b>	New York	Budapest
<b>Port Canaveral</b>	South Hampton	Paris
<b>New Angeles</b>	Barcelona	Basel
<b>Galveston</b>	Istanbul	Nuremberg
<b>New Orleans</b>	Venice	New Orleans
<b>New York</b>	Papeete	Prague
<b>Seattle</b>	Civitas vecc.	Lisbon
<b>Tampa</b>	Athens	Charleston
<b>Vancouver</b>	Piraeus	Berlin

*Source: Forbes Travel: Cruise Trends: Will They Hold in 2016? 10.01.2016*

<sup>4</sup> Forbes Travel: Toasting the Danube

<sup>5</sup> Forbes Travel: Cruise Trends: Will They Hold in 2016? 10.01.2016.

<sup>6</sup> Forbes Travel: Cruise Trends: Will They Hold in 2016? 10.01.2016

**Table 3 Most Popular Countries Visited<sup>7</sup>**

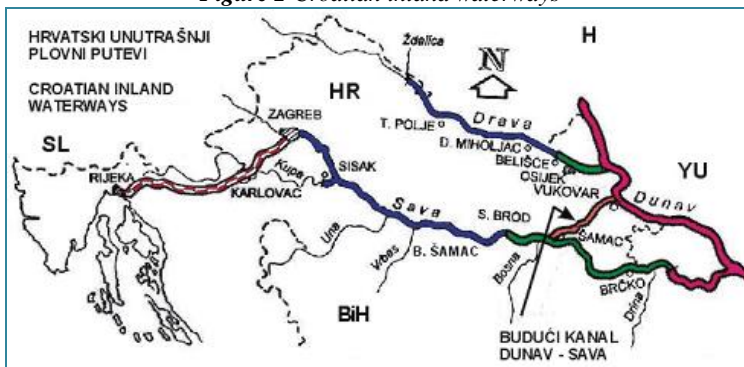
Contemporary/Premium	Luxury	River
Mexico	USA	Germany
The Bahamas	Greece	France
United States	Italy	Austria
Virginia Islands	Spain	Netherlands
Netherlands Antilles	Canada	United States
Cayman Islands	France	Slovak Rep.
Jamaica	Turkey	Bulgaria
Puerto Rico	French Pol.	Hungary
Turks & Caicos Islands	St.Barthelemy	Serbia
Honduras	Croatia	Cambodia

*Source: Forbes Travel: Cruise Trends: Will They Hold in 2016?*

The Republic of Croatia bases the development of nautical tourism on rivers on the strategic potential of the Danube, Drava, and Sava. Tourist offers of Danube cruises include visits to Vukovar and Ilok, and new docks for tourists are opening in Aljmaš and Batina.

The city of Osijek has been an interesting tourist destination on the Drava for many wealthy guests who choose river cruises on the Danube routes. The plan is to build a river dock in Slavonki Brod, which will improve river transport for cruises on the Sava, and in the framework of this project, the riverbed near Šamac should be deepened to facilitate the arrival of more ships for cruising along the Sava.

**Figure 2 Croatian inland waterways**



*Source: www.fpz.unizg.hr*

This growing interest in river cruises on the Danube, Drava and Sava is a quality encouragement for continental tourism development. This is especially important for five Slavonian counties that still feel devastating consequences of war, and in which the difficult economic situation caused permanent emigration of 4860 persons in 2014 alone.<sup>8</sup>

According to the data by the Institute for Tourism, the number of river cruises since 2002 was 200 passengers, until 2014, when the number reached the record 33,000 passengers.<sup>9</sup>

<sup>7</sup>Forbes Travel: Cruise Trends: Will They Hold in 2016?10.01.2016.

<sup>8</sup>Information of the Central Bureau of Statistics 2016

<sup>9</sup>Institute of Tourism, Annual Report 2015

The eastern part of Croatia has exceptional natural and cultural attractions which are the key precondition for the development of river cruising tourism. Along the banks of the Danube, Sava, and Drava are many towns attractive to tourists, nature parks and other protected natural areas as well as architectural heritage, which provide an excellent foundation for further development of river cruising tourism.

## **2. Success Factors**

The analyses carried out by the Institute for Tourism indicate great potential for improvement of this tourism segment, since the capacity of the Danube, Drava, and Sava waterways have not even remotely been reached, and the fact that the Slavonia region has many tourist attractions that could be unexplored tourist destinations for travellers who decide to visit, not only the places along Croatian river banks, but also their interior.

About 950,000 passengers went on European river cruises in 2013. The worrying fact is that almost half of international river cruises on the Danube route do not visit Croatian ports. This information indicates that this important segment of the tourist offer requires attention of all the stakeholders, and that the potential of its development is very strong.<sup>10</sup>

Strategic development documents in the field of river transport and tourism do not mention, or they only hint, without any elaboration, at cruising tourism on rivers.

**River Transport Development Strategy of the Republic of Croatia 2008-2018** (The Official Gazette 65/08) does not mention cruise tourism at all (nor nautical tourism on rivers in general).

**Medium-Term Development Plan of Inland Waterways and Ports of the Republic of Croatia (2009-2016)** mentions passenger traffic and cruising tourism, but does not provide detailed guidelines for their development.

**Croatian Tourism Development Strategy until 2020** (*The Official Gazette* 55/13) does not cover the issue of nautical tourism on rivers at all.

The lack of strategic development documents results in building of legal framework (laws and regulations) without adequate strategic political decisions, which also hinders the process of EU funding.

---

<sup>10</sup> Lloyd's Cruise International Magazine January 2016

## 2.4. River cruises in Croatia

Figure 3 SWOT analysis

WEAKNESSES	STRENGTHS
Lack of accommodation facilities near the rivers	Dunav, Drava , Sava
Lack of co-operation between the public and the private sector	attractiveness of the region
Lack of promotion, image and positioning related to development of products of nautical tourism	Croatia in EU
Lack of specific information related to specific services of nautical tourism	Security stay in Croatia
The gastronomic offer is not specialised,	Cruising on several rivers
Lack of specialised DMCs	Load bearing capacity of rivers
Lack of specialised guides for the development of products of nautical tourism on rivers	
Insufficient use of cultural and natural resources for tourism purposes	
Under-utilisation of EU development funds	
THREATS	OPPORTUNITIES
Possible stagnation of the market	Growing demand in Europe
The increase in costs of shipping	The demand for authenticity destinations
Water level of rivers / climate change	

Source: Institute for Tourism, Cruises along the Danube in Croatia 2014

## 3. The Vision of River Cruise Development

The way in which river cruises are organised (announcement of the arrival usually months in advance), and the capacity of river boats (about 150 passengers) are ideal for areas that do not have strongly developed tourist facilities, and Slavonia and Baranja are exactly like that.

Boat capacity, predefined arrival and sizes of tourist groups provide excellent opportunities for development of small and medium enterprises, tourist rural households, rural tourism (tourism on family farms and other special forms of rural tourism), traditional and protected crafts, etc.

Cruising tourism on rivers can be a high-quality catalyst for the development of other forms of tourism and hospitality, and encourage the development and sale of autochthonous souvenirs and other traditional products which the tourists can take home (*kulen* sausage, wine, brandies, etc.).

### Objectives:

<b>Croatia in all itineraries</b>
<b>All river ports included, Vukovar, Osijek and Ilok dominate</b>
<b>Some Croatian ports are departure ports</b>
<b>More visitors and higher income</b>
<b>High quality of dispersed services</b>
<b>Protected environment</b>
<b>Developed offer of excursions or one-day river cruises</b>
<b>The Danube-Sava Channel is about to be finished</b>

#### **4. Conclusion**

In order to improve the integral product of river cruises in Croatia, it is necessary to design a tourist offer that would profile Croatia as an attractive cruise destination. The state and local level should, in co-operation with local tourist boards, devise a distinctive and unique travel experience that would include cultural and natural heritage as well as high-quality wine and gastronomic offer. In order to preserve the natural, cultural and other resources along the Danube, Drava, and Sava, and at the same time to successfully use them for tourism purposes, it is necessary to develop a regional approach and co-operation at all levels, from state to local. The strategic development documents should comprehensively cover many aspects, including the potential for the development of the hospitality industry, tourism, offer of cultural and other facilities, i.e. tourist attractions as well as specialised industrial and agricultural production.

#### **REFERENCES**

River Cruises in Croatia, Croatian Tourism Days, Opatija, 17.10.2014

Croatian Tourism Development Strategy until 2020, The Official Gazette, No. 55/13,

Curić, Z., Glamuzina, N., Opačić, V. T., 2013: Geografija turizma – regionalni pregled, Naklada Ljevak, Zagreb

Nautical Tourism Development Strategy of the Republic of Croatia 2009-2019,

Maritime Development and Integrated Maritime Policy of the Republic of Croatia 2014-2020,

River Transport Development Strategy of the Republic of Croatia 2008-2018, The Official Gazette, No 65/08

Medium-Term Development Plan of Inland Waterways and Ports of the Republic of Croatia 2009-2016

Institute for Tourism, Annual Report, February 2015.

Vukovar Port Administration: Strategy of the Potential and Development of River Cruising on the Danube

Study of Sustainable Development of Tourist Cruises along the Danube in Croatia (2014)

Conclusions of the Tourism Committee of the Croatian Parliament of 26.04.2012 and 08.05.2014

European Strategy for More Growth and Jobs in Coastal and Maritime Tourism, COM (2014) 86

EU Strategy for the Danube Region

Lloyd's Cruise International Magazine

Sciozzi, Donald; Poletan Jugović, Tanja; Jugović, Alen: Structural analysis of cruise passenger traffic in the world and in the Republic of Croatia, *Pomorstvo : journal of maritime studies* 29 8-15 2015

mr. sc. Katija Vojvodić: Market development of river cruises

Jovanić, M., 2013: Multifunctional Danube-Sava (VCDS) - profitable project ?, *Geographical horizon* 59 (1), 59-69.

Sić, M., 2012: Paneuropean transport corridors and the development of Osijek region, *Croatian Geographical Bulletin* 74 (2), 53-67.



**Assist. Professor Ivo Šperanda, Ph.D**

University of Dubrovnik – Department of Economics & Business Economics  
Dubrovnik, Lapadska obala 7  
e-mail: ivo.speranda@unidu.hr  
mob. 091 323 4003

**Assist. Professor Damir Piplica, Ph.D**

University Department of Professional Studies – Split  
Kopilica 5, Split  
e-mail: damir.piplica@gmail.com  
mob. 091 752 2661

**APPLICATION OF THE COMPOUNDED CASH FLOW METHOD (CCF)**

**PRIMJENA METODE UKAMAĆIVNJA GOTOVINSKIH TJEKOVA (CCF)**

**ABSTRACT**

*The aim of this paper is to present and to propose completely different valuating approach i.e. to introduce, a new company valuation method. As generally known there are numerous methods of company's valuation such as: book value method, business value method, valuation by indicators, etc. And finally the most commonly used Discounted Cash Flow Method (DCF)*

*By applying abovementioned method to value a company i.e. business, the future business plans based upon historical data, expressing expectations in the future are taken into the count. And then by discount rate those future data being bring back to present. Firstly, the future cannot be predicted precisely. Secondly, if the business plan is leaned on the past business, which was good, it does not mean it will be as good in the future. Next problem is concerning applied discount rate. There are many methods to calculate one, but each one is optional and arbitrary, what means it is up to analyst or valuator to choose one. Residual value problem occurs now. Putting this value into the calculation the whole picture can be heavily distorted, especially if the sum of net incomes is not very high.*

*Proposed Compounded Cash Flow or CCF method offers a different approach to valuation. Instead of bringing back the future promises to the present by arbitrary chosen discount rate, this method proposes to take company's complete financial reports and by taking stated figures bringing the certain and reliable past to the present by compounding. Knowing the past (inflation rate, taxes, banking rates, demand, costs, accounting policies, etc.) data from the accounting books can be corrected and adjusted properly. This way more reliable and accurate data are available to be evaluated.*

*The CCF method is theoretically well founded, applicable in practice and it serves for valuating any business. By this method the company's value can be estimated (valuated) at the certain part of time and compared to the current stock price on the stock market, and the additional advantage of this method is risk elimination of misevaluating for the certain extend.*

*Following previously disclosed the paper points out the necessity of evaluating, not only physical assets, but also human capital, i.e., the totality of knowledge and skills of employees in company. The paper points to the fact that the use of CCF method takes into account the human capital as an important component significantly reduced chronic devastation of the eastern Croatian economy.*

**Key words:** Valuating, Company, DCF, CCF

## SAŽETAK

Cilj ovog rada je prezentirati i predložiti posve drugačiji pristup procjeni vrijednosti tvrtke, odnosno uvesti novu metodu procjene u praksu. Općepoznato je da za vrednovanje tvrtki postoje brojne metode poput: metoda knjigovodstvene vrijednosti, metoda poslovne vrijednosti, određivanje vrijednosti pomoću pokazatelja, itd. Najpoznatija i najupotrebljavanija je DCF metoda tj. metoda diskontiranih novčanih tijekova.

Uporaba gore spomenute metode uključuje korištenje poslovnih planova koji se temelje na očekivanjima. Potom se diskontnom stopom takvi planski podaci vraćaju u sadašnjost. Prvo, budućnost se ne može precizno predvidjeti. Drugo, ukoliko se poslovni plan temelji na prošlom poslovanju, koje je bilo dobro, to ne znači da će biti takvo i u budućnosti. Sljedeći problem je problem primjene diskontne stope. Poznate su mnoge metode za njeno određivanje, ali svaka je proizvoljna i ovisi o procjenitelju koju će stopu primjeniti. Sada se pojavljuje problem rezidualne vrijednosti. Kalkuliranje ove vrijednosti u procjenu može cijelu sliku vrijednosti potpuno iskriviti, posebice ako suma neto prihoda nije visoka.

Predložena CCF metoda tj. metoda ukamaćenih gotovinskih tijekova nudi drugačiji pristup procjeni. Umjesto vraćanja u sadašnjost obećanja za budućnost diskontiranih proizvoljnom diskontnom stopom, CCF metoda nudi ukamaćivanje i svođenje pouzdanih i sigurnih podataka iz financijskih izvještaja na sadašnju vrijednost. Poznavajući prošlost (stopa inflacije, porezi, kamate, potražnja, troškovi, knjigovodstvena politika, itd) podaci iz bilanci se mogu ispraviti i korektno prilagoditi. Na ovaj način se dobiju potpuniji i korektniji knjigovodstveni podaci za procjenu. CCF metoda je teoretski dobro utemeljena, upotrebljiva u praksi i primjenjljiva za procjenu vrijednosti tvrtki različitih veličina i vrsta poslovanja. Ovom metodom se može procijeniti vrijednost tvrtke u određenom vremenu i usporediti s tekućom vrijednosti njenih dionica na burzi. Pored toga, dodatna prednost CCF metode je i mogućnost, u određenoj mjeri, otklanjanja rizika pogrešne procjene vrijednosti tvrtke.

Nastavno prethodno iznesenom, u radu se ističe i nužnost procjene, ne samo fizičke imovine, nego i ljudskog kapitala tj. sveukupnosti znanja i vještina zaposlenih u tvrtki. Rad ukazuje na činjenicu da bi se uporabom CCF metode, uz uvažavanje ljudskog kapitala, kao važne komponente, znatno smanjila kronična devastacija gospodarstva istočne Hrvatske.

**Ključne riječi:** vrednovanje, tvrtka, DCF, CCF

### 1. Introductory Remarks

Firm valuation in international business has been one of the crucial issues of microeconomic financial analysis for few decades. It doesn't only imply valuating certain firms but different investments as well. Considering frequent usage of this term it is necessary to clearly define it. The statement in B. Graham's capital work "The Intelligent Investor" – *An investment operation is one which, upon thorough analysis, promises safety of principal and an adequate return* - (Graham, 2006, 27) would be the most appropriate one.

The most common method of valuation is certainly the DCF (**D**iscounted **C**ash **F**low) with all its numerous variants. The main feature of this dynamic method is using the concept of time value of money and basing the final value on present value of future cash flows.

Other common methods (accounting, enterprise multiple and similar ones) are so called static methods and are mainly used as supplement or control of DCF method. The main disadvantage of the DCF method, which has been seriously criticized for the last few years, is that it relies on the future business events and cash flows forecasts which are based on historical data and certain assumptions. CCF method (**C**ompounded **C**ash **F**low) uses new methodology approach by using historical data of firm's balance sheet which is evaluated in certain period of time. Balance sheet information are adjusted according to reliable and available information (inflation rate, market price and similar), supposing the concept business as usual. In other words, DCF method is based on the future income projection decreased for arbitrary discount rate. Since CCF is a posteriori method and operates with historical data, those data are not discounted but moreover, they are compounded at the most logical rate, Internal Rate of Return and at its variants. This paper brings all advantages of the CCF method by which certain disadvantages of other valuation methods (such as quality of entry parameters and their manipulation) are eliminated. Theoretically, this paper demonstrates the CCF as a model-based procedure, while in practice it serves well for valuation of investments in different business actions. The basics of the CCF Method was published firstly in 2012. (Economic Research, vol.25 (3) Sept. 2012)

The aim of this paper is to present and propose new valuating model in order to be subdued to the criticism and review what will, hopefully, lead to the goal of the paper which might be expressed as: by improvement to the wide-ranging utilization. Basic hypothesis is a continuation of previous emphasized: wide-ranging utilization of the CCF method, along with others, will improve firm valuating accuracy.

## **2. Commonly Used Valuation Methods - Brief Overview**

Three firm valuating methods, each based on the specific problem approach, have lately distinguished in business practice. Accounting or Cost Based Method is considered the easiest to apply and is based on firm's balance sheet which is valued along with additional modifications of assets and liquidation costs liabilities (asset sale costs, debts collection, obligations towards the employees, providers, depreciation adjustments and similar). Balance sheet is examined and adjusted to the actual situation, as International accounting standards imply. Firms with greater physical assets, i.e. capital intensive (factories, hotels and similar) are more protected when using this method, i.e. are more valuable than firms having so called intangible assets, meaning non-material assets.

After the valuation and revision of all accounting entries, all liabilities are deducted from total assets and book value is gained.

*Total Assets – Total Liabilities = Firm's Net Value*(1)

The disadvantage of the method is that it is very static. The valuation is performed on a specific date without considering prior business events or business potentials. In other words, only the firm's asset is evaluated and not firm's business and its possible effects.

Market Method or Enterprise Multiple is very popular method due to its simplicity. P/E (**P**rice / **E**arnings Ratio) is simply multiplied by firm's earnings. This method is based on the assumption that it is possible to find firms whose shares are listed on the stock market and that are similar to firm which is being evaluated, and to determine adequate multipliers for certain firm, bearing in mind the differences between the comparable firm and the one being evaluated. Besides simple and fast value calculation, other advantages would be the simple presentation of gained values and finally the fact that they reflect

current market situation. However, the flaws of this value method outnumber its advantages, the main flaw being over simplifying and neglecting key indicators of every firm's business (sources and generators of income, expenditure and profit). Such calculated value (regardless to multipliers type) is approximate and very often gives wrong valuation and enables at the same time information manipulation. DCF (Discounted Cash Flow) or Income Value Approach<sup>1</sup> is basic valuation model which calculates discounted future values of expected cash flows; calculated as

$$DCF = \sum_{t=1}^n CF_t \left[ \frac{1}{(1+k)} \right]^t \quad (2)$$

Where:

DCF = discounted cash flow

CF<sub>t</sub> = cash flow for the year t

k = discount rate

n = number of periods

In difference to models of multipliers, Discounted Cash Flow method is based on the firm's business. During valuation it is important to consider basic firm's characteristics and, at the same time to understand type of business. Finally, this method evaluates business, and not only the assets. The possibility to manipulate entry information is rather big (and present), even with concrete entry information and parameters. The valuation is based upon the projected sizes founded on historical information and discounted at rather arbitrary discount rate, especially in Croatia where correct rate calculation of return according to CAPM (Capital Asset Pricing Model) is very doubtful.<sup>2</sup>

### 3. Different Valuating Approach

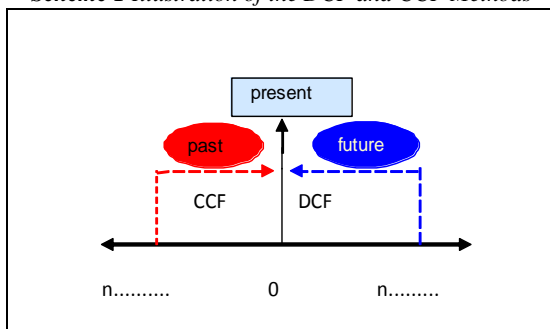
Valuation concept i.e. different methodology approach to firm valuation which this works suggests and describes in short, is based on the DCF valuation concept, simultaneously aiming at eliminating the disadvantages of the method, firstly the possibility of manipulating with entry information for valuation (income, expenditure, profit and similar) and manipulating with arbitrary (regardless to skillfully disguised complicated math formulas) determination of discounted rate. Observing well known CAPM model, is evident that the costs of owner's equity or discounted rate are composed of rate of return to *risk free* (although such literally doesn't exist) asset which itself is composed of inflation rate and real rate of return. In AAA credit rating countries (USA, Great Britain, France), T-Bonds have risk-free rate of return. In other countries with lower credit rating BB (Brazil, Bulgaria, Croatia and similar), T-bonds have Country Risk Premium which must be considered as well. (Estimations by S&P) Abbreviation E(R) as a result of CAPM calculating stands for extra return; it is actually the rate that certain investor demands in order to invest into stocks and not in T-bonds, enlarged for systematic risk (β) of firm's economic sector. Finally, there is α representing the risk measure (volatility) of certain firm. So, future profits, resulting from the cost / income difference and based on firm's business plans for the next 5, 10 years (being the plans made by the very management of the firm) are discounted by the rate (gained by the previously described procedure). The investor is now buying firm's value, along with presumptive future profits on which the valuation was based.

The basic concept of the new approach (method):

- Usage of historically (relatively) reliable information from the firm's financial documents in certain past period of time (n= 5, 10, 15... years).
- Income and similar categories from the financial statements are discounted to present value at the rate equal to internal rate of return (IRR) of the firm realized in the observed period of time.
- All information previously deflated by using official inflation rates (provided by the Croatian National Bank, Croatian Bureau of Statistics or similar sources).
- *Business as usual* is a starting point, and so called *residual value* is not taken into account.

The relation between CCF and rather notorious DCF method can be illustrated as in scheme 1.

**Scheme 1** Illustration of the DCF and CCF Methods



Source: Authors

It is completely clear that the concept is based on actual, logical and easily available information, making this model reliable in terms of evaluation.

Mathematical illustration of the proposed model is<sup>3</sup>:

$$CCF = \sum_{t=1}^n CF_t (1+k)^{n-t} \quad (3)$$

Where:

CCF = compounded cash flows

CF<sub>t</sub> = cash flow in the year t

k = internal rate of return, i.e. real rate of return

n = number of periods

In this model, CCF equals the firm's value obtained as a sum of historical, revised cash flow income, gross income and similar categories in „n“ periods and compounded at the IRR in final observed period. Appraisal's choice of category (profit, gross profit, FCF, EBIT, NOPAT...) differs from case to case provided that thorough explanation about chosen category is given. Proposed average compound rate is IRR which should be spread to so-called TRR (True Rate of Return) as it contains calculated reinvestment rate.

When determining IRR, the problem of multiple internal rate of return might appear. There are many approaches and possibilities of resolving such a problem.<sup>4</sup>

#### 4. Compounded Cash Flow Method - Application

By one concrete example comparable evaluations will demonstrate the advantages of the proposed concept (and obstacles of classic DCF model) and a calculation of CCF. An example<sup>5</sup> of accounting or cost-based method calculation would be as follows.

**Table 1 Book Value from the Balance Sheet**

No.	Description	Revised Amount (kn)
1	Toatal Assets Value	68.161.412
2	Toatal Liabilities	60.582.948
3	Firm Book Value (1-2)	7.578.464

Source: Authors

Book value is obtained by having used the relation (1), as shown in the table 1.

Market method, i.e. evaluation method based on usage of multipliers will be left out in this paper for two reasons: this method has a controlling character due to its approximation and short horizon. Since this concrete case was dealing with the Croatian firm, it was not possible to find adequate multipliers for valid valuation.

For the DCF evaluation method it is necessary to calculate the Profit and Loss Account for the period of five years.

**Table 2 Profit and Loss Account for the Period**

Item / Year	1.	2.	3.	4.	5.
1. Income	27.295.843	25.564.036	23.092.919	21.651.046	20.849.101
2. Operating cost (2.1.+2.2.)	33.249.027	32.457.375	31.297.823	30.763.988	30.394.678
2.1. Production costs (2.1.1.2.1.3.)	33.249.027	32.457.375	31.297.823	30.763.988	30.394.678
2.1.1. Material costs	18.242.720	17.451.067	16.291.515	15.757.680	15.388.370
2.1.2. Depreciation	3.282.869	3.282.869	3.282.869	3.282.869	3.282.869
2.1.3. Gross salaries	11.723.439	11.723.439	11.723.439	11.723.439	11.723.439
2.2. Financial expenses	-	-	-	-	-
3. Gross profit/loss (1.- 2.)	(5.953.184)	(6.893.338)	(8.204.904)	(9.112.942)	(9.905.577)

Source: Authors

An insight into Profit and Loss Account shows that the income in the valuation period does not cover for the business costs, so there is loss in business for all years ranging from 5.953.184 kn to 9.905.577 kn for the last valuation period. From information from Profit & Loss Account it can be concluded that business is in deficit during the entire valuation period, and that the country does not levy taxes and the owners cannot expect share of profit. Coverage for loss is impossible with this kind of production volume as it is realized in all years with a tendency to increase in future. Next methodological step in DCF valuation is creating a *Cash Flow* which represents specific financial statement on future business by which the effect of all engaged firm's resources is measured. Namely, the firm disposes of all working and non – working capital and uses them to realize planned impacts.

**Table 3 Cash Flow I for the Period**

Item / Year	1.	2.	3.	4.	5
I Income	35.140.536	25.564.036	23.092.919	21.651.046	85.218.000
1. Total income	27.295.843	25.564.036	23.092.919	21.651.046	20,489.101
2. Existing receivables	5,298.213	-	-	-	-
3. Active money	2,546.480	-	-	-	-
4. Residual value	-	-	-	-	64,730.037
4.1. Capital assets	-	-	-	-	45,590.604
4.2. Working capital	-	-	-	-	19,139.433
4.3. Reserves	-	-	-	-	-
II Expenditures	33,956.655	29,174.506	28,014.954	27,481.119	27,111.809
5. Current liabilities	3,990.496	-	-	-	-

Item / Year	1.	2.	3.	4.	5
6. Material costs	18,242.720	17,451.067	16,291.515	15,757.680	15,388.370
7. Gross salaries	11,723.439	11,723.439	11,723.439	11,723.439	11,723.439
III Net income	(1,183.881)	(3,610.470)	(4,922.035)	(5,830.073)	58,106.191
IV Discounted factors (p=12%)	1.00	0,8929	0,7972	0,7118	0,6355
V Discounted value NP <sup>a</sup>	(1,183.881)	(3,223.789)	(3,923.846)	(4,149.846)	36,926.484
<b>VI Present value</b>	<b>24,445.122</b>				

Source: Authors

Cash flow contains income, expenditures and net income. All items that increase economic potential of a firm in valuation period - total income, current and long-term receivables, existing money and residual value of firm -make an income. Since the discounted rate (p) of 12 % is an average required rate of return or expected return rate<sup>6</sup> and, taking into account an alternative use of capital, this average rate was taken as discount rate. By using relation (2) we got the firm's value.

Despite the fact that the evaluated firm will realize more than 40 million kuna of gross loss of nominal value in the next five years, according to information from P & L projection, and despite relatively high discount rate, by applying DCF method and due to very high value of evaluated *residual value of assets* at the end of the fifth year of the observed period, for whose discounted value was increased a sum of discounted cash flows, we get the present firm's value amounting 24,4 million kuna. Thus the firm which continually achieves negative business results, according to projections based on business flow, gains positive value when DCF method is applied. To simplify, let us assume that information from previous tables do not represent projections but the historical data from already realized business years and adjusted for inflation rates. This assumption will enable the demonstration of new suggested CCF method and it will operate with identical sizes in order to compare the results of applied valuation methods more reliably. The only difference will be elimination of residual value evaluation in amount of 64.368.899 kuna.

**Table 4 Cash Flow 2 for the Period**

Item / Year	1.	2.	3.	4.	5.
I Income	35,140.536	25,564.036	23,092.919	21,651.046	20,489.101
1. Total income	27,295.843	25,564.036	23,092.919	21,651.046	20,489.101
2. Existing receivables	5,298.213	-	-	-	-
3. Active money	2,546.480	-	-	-	-
II Expenditures	33,956.655	29,174.506	28,014.954	27,481.119	27,111.809
5. Current liabilities	3,990.496	-	-	-	-
6. Material costs	18,242.720	17,451.067	16,291.515	15,757.680	15,388.370
7. Gross salaries	11,723.439	11,723.439	11,723.439	11,723.439	11,723.439
III Net income	(1,183.881)	(3,610.470)	(4,922.035)	(5,830.073)	(6,262.708)
IV Compounding factors. (p=12%)	1.5735	1,4049	1,2544	1,1200	1,0000
V Value (NP <sup>a</sup> )	(1,862.860)	( 5,072.450)	(6,262.009)	(6,529.682)	(6,262.708)
<b>VI Present value II</b>	<b>(19,727.001)</b>				

Source: Authors

By applying the CCF method in accordance to the relation (3) with supposed discounted rate of 12% which is not equal to realized IRR (as it is meaningless to calculate it due to the negative net income), present value is expectedly negative.

Here is information interpretation and the result: by applying the CCF, net income was compounded in the period of five years on "future" value regardless the negative results, i.e. losses. The sum of such net income represents present value (PvII) which is an expression of true and not projected economic

potential of the firm. In this case it is a sum of business losses (Pv II = -19,7mil) meaning that the firm accumulated in five-year period such a sum of losses expressed in present value. In other words it is a "negative firm value". So, in difference to results obtained by DCF valuation method which demonstrates that firm is 24,4 million worth (Pv = 24,4 mil), the result of CCF method suggests completely opposite conclusion. In the CCF, information obtained from five-year Profit & Loss Account are treated as realized results, and the final calculated value shows that the firm is not worth buying unless a new owner intends to invest in necessary reconstruction and reorganization, which is by far some other issue.

Another characteristic of the CCF is that it does not calculate residual value because the method is based upon realized results, i.e. business effects which represent the base to value determination. Besides, "residual value" is the result of balance sheet i.e. static valuation, thus having more the characteristic of liquidation value of firm's assets. Since the CCF values financial results realized in a certain period of time and it indirectly measures firm's potential, it would be wrong to correct such a value for residual value, methodologically speaking. Previous practical example nicely demonstrates the impact of the calculated residual value on the estimated value. It is completely clear that the CCF indicates to the fact that the firm is completely inefficient and that only the physical assets has liquidation value. So, the firm is seriously threatened by the possible production break or reorientation of its business which demands new investments, which is the subject of some new analysis and valuation.

The intention is to offer appraisals another helpful method, another possibility to consider the problem of determining value of certain firm, business and investment. The corrective role of the CCF method should be specially emphasized because appraisals would be "forced" to thoroughly explain possible big discrepancy between the results of the DCF and CCF for the same firm (business) and it should slightly eliminate insider information.

#### 4.1. An Additional Value Indicator

This procedure might be extended by next step: if firm's value is calculated by DCF, CCF method and in addition a book value is known also, it is easy to find out a current market value of the firm (if listed on the equity markets) in this case four types of value can be used to determine a composite firm value by using a newly proposed method of value determining so called Composite (harmonic mean) value i.e. C (hm) which can be expressed as:

$$C(hm) = \frac{N}{\left[ CCF \left( \frac{1}{BV} + \frac{1}{DCF} + \frac{1}{MV} \right) \right]} \quad (4)$$

Where:

N= number of values in set

MV= market value

BV= book value

DCF= value calculated by DCF method

CCF= value calculated by CCF method

So, the C (hm) is very good relative indicator of relations among the different values of the very same firm. Closer the indicator is to 1 the dispersion of the firm values is lesser, what could point out to the



conclusion that no significant variation are among the applied methods of valuating, and accordingly actuates to the stable value of the firm.

## 5. Concluding Remarks and Conclusion

The relation between the CCF valuation method of certain firm (business) and rather notorious DCF method can be clearly illustrated as two sides of one medal, compounding and discounting, when observed from mathematical point of view, are related by number of periods and interest rates, i.e. discounted rates. Observing the problem in the means of functions, the mentioned methods which are based on discounting, i.e. compounded are inverse functions.

Operating with historical and real information obtained from the firm's financial statements which reflect business events, in difference to using projections of the statement which are more or less subjected to different manipulations would be the biggest advantage of CCF method. Besides, as the method relies on historical database, the adjustments of those information (deflation, determination of market values of balance sheet items) are considered more reliable, being known and publicly available (information on inflation rates, market prices and similar). The compounding rate in this method is IRR (Internal Rate of Return), i.e. TRR (True Rate of Return), actually the average rate at which the invested money in certain business (investment) is compounded, and in this case the firm's valuation is observed as valuation of possible investment into some business (firm). So, the CCF method evaluates real business results and those firms with better financial results within longer period are much more highly ranked. Thus, when using the CCF it is recommendable to consider longer period of time and the length depends on an individual valuation and firm. Anyway, there is no unique valuation method which can be equally valuable in all valuation cases. Basic advantages of CCF method are: reliability, accuracy, confidentiality of information, basing the firm's present value on realized business effects, looking at the realized effects as the results of material, organizational, human and other factors. Withal, this method corresponds very well with EVA (Economic Value Added) as a metric of economic profit, i.e. firm's success and worthiness.

It is clear that proposed CCF method is actually dynamized( $\Sigma$ CF, i.e.  $\Sigma$ EBIT) and somewhat adapted IRR, i.e. TRR instead of cost of capital, i.e. WACC.

Finally, in difference to CCF method, the DCF belongs to the part of economic models which are based upon projections, i.e. certain assumed relations in future. All obstacles, limitations and possible consequences of mistakes of such models and their procedures are elaborated in research work "Economic Methodology" by S. C. Dow.<sup>7</sup> (Dow, S.C. 2005)

This paper does not suggest elimination of former method(s), on the contrary, it suggests a new one as alternative or corrective.

This method, just like the others, has its advantages and limitations and it is very important to know when and how to use it: CCF is appropriate for firm's valuation from the potential buyer's point of view. Why? As it has already been explained the CCF represents inverse method of DCF. Namely, DCF is based on business plan, on possible future business and other accomplishments and values which are then discounted and thus given present value. In other words, future business events are "brought" into present. The CCF uses past, accomplished events and seizes that are easy to examine and revise. Such values reflect real firm's (business) potentials, moreover, they can be adjusted and made more real because we are familiar with past parameters (such as inflation rate and similar). Those sizes are then compounded and reduced to present value. That is why this valuation method

could be called “regressive dynamic method”. So, instead of traveling to future (and who can say for sure what will happen?), the CCF recommends traveling to familiar past.

The basic question (for buyers) is: do I buy the firm (business) basing on what it has been doing so far or basing on the assumptions what and how it will do business in future? What gives more realistic picture?

To resume: CCF gives present values by compounding realized sizes, just like bank investment, while DCF gives present values of more or less based promises.

The question: which method suits the buyer more, and which one the seller?

By using efficient combination of both methods the realistic value of firm (business) can be achieved because CFF measures realized efficacy, while DCF measures future maximal business potentials.<sup>8</sup>

Human capital perceived as the totality of numerous collective knowledge and skills and similar intangible assets what can be very useful in creating economic value, especially regarding the education as an investment in human capital that pays off in terms of higher productivity. It's to point out that, according the World Economic Forum publication The Human Capital Report 2015.(available at:[www3.weforum.org/docs/WEF\\_Human\\_Capital\\_Report\\_2015.pdf](http://www3.weforum.org/docs/WEF_Human_Capital_Report_2015.pdf))

Croatia is ranked as 36/124 regarding the overall index, since the best ranked countries are Finland, Norway, Switzerland, etc.

Bearing in mind significant devastation of appreciable overall economic potential of Slavonia, and the entire Croatia as well, especially during the so-called privatization process, on the basis of the conclusions can be said, with confidence, that if the CCF method has been represented and introduced into the practice earlier, it would significantly contribute to more reliable and more objective assessment of the value of companies which would, without doubt, reduce economic devastation, and the main reason is that the proposed method, by its nature, includes the actual know-how, skills, effort, enthusiasm and experience of employees.

Considering and concluding all previous brought out in this paper, the deployed hypothesis can be asserted.

## REFERENCES

Bendeković, D. et.al. (1998): *Procjena pravnih osoba, imovine i obveza/metodološki prilozi/*, FOIP, Zagreb

Bodie, Z. et.al. (2006): *Počela ulaganja* (IV edition), Mate d.o.o. Zagreb

Chiang, A.C (1994) : *Osnovne metode matematičke ekonomije* (III edition), Mate d.o.o. Zagreb

Damodaran, A (2010): *Damodaran o valuaciji* (II edition) , Mate d.o.o. Zagreb

Dow , S.C (2005): *Ekonomska metodologija* , Politička kultura, Zagreb

Fernandez P., et.al.(2015): *Discount Rates (Risk-Free Rate and Market Risk Premium) used for 41 Countries: a Survey*, IESE Business School, Madrid, April 23,2015.(available at: [www.aculty.mcombs.utexas.edu/keith.brown/AFPMaterial/FernandezEtAl%20WP-](http://www.aculty.mcombs.utexas.edu/keith.brown/AFPMaterial/FernandezEtAl%20WP-)) (accessed 28 March 2016)

Graham, B. (2006): *Intelligentni investitor*, Masmedia, Zagreb

Jain, P.C (2010): Buffett *Beyond Value* , Wiley Inc., N.J., USA

Martić, Lj (1980) : *Kvantitativne metode za financijske i računovodstvene analize*, Informator, Zagreb

Pike, R. Et.al.,(1993): *Corporate Finance & Investment*, Prentice Hall Int. (UK) Hempstead

Šperanda, I. (2012): *Firm Valuation – New Methodological Approach*,  
Ekonomska istraživanja/Economic Research – Pula, No.3,2012 Vol.25 (3). pp.803.- 824.

Van Horne J.C, (1993): **Financijsko upravljanje i politika**, (IX edition) Mate d.o.o., Zagreb

<http://www.sjsu.edu/faculty/watkins/countryrisk.htm>(accessed 6 March 2016)

<http://www.stern.nyu.edu/~adamodar/pc/cf2Eil> (accessed 14 February 2016)

<http://www.acuity.mcombs.utexas.edu/keith.brown> (accessed 28 March 2016)

[http://www3.weforum.org/docs/WEF\\_Human\\_Capital\\_Report\\_2015.pdf](http://www3.weforum.org/docs/WEF_Human_Capital_Report_2015.pdf)(accessed 28 March 2016)

Notes:

---

<sup>1</sup>Consult: Pike-Neal: Corporate Finance & Investment- Prentice Hall Int. (UK) Hempstead 1993. pp. 80.-97., also see: Damodaran A.: Damodaran o valuaciji (II. edition.) - Mate d.o.o., Zagreb. 2010. pp. 25.-27. 79.-117.

<sup>2</sup> Since CAMP and WACC are widely used methods for determining discount rate, and volatility and industrial branches of the firm ( $\beta$  and  $\alpha$ ) are needed for calculation, which has been impossible in Croatia so far.

<sup>3</sup> Designation of the CCF model (Compounded Cash Flow) is determined by the analogy of the DCF (Discounted Cash Flow)

<sup>4</sup>Consult: Martić, Lj. (1980): Kvantitativne metode za financijske i računovodstvene analize -Informator, Zagreb, pp.25-28. ; also see: [www.stern.nyu.edu/~adamodar/pc/cf2Eil](http://www.stern.nyu.edu/~adamodar/pc/cf2Eil) ; Consult also: VanHorne J.C, (1993): Financijsko upravljanje i politika, Mate d.o.o., Zagreb, pp. 164-166.

<sup>5</sup> Information for this example was taken from the real industrial firm valuation condensed and adapted for the purpose of this paper.

<sup>6</sup>Stated value is taken out from the paper by Prof. Fernandez P., et.al. as an arithmetic mean of discount rates for 41 countries in 2015. p.5.

<sup>7</sup>Dow S.C, (2005): Ekonomski metodologija, Politička kultura, Zagreb. Author is dealing with the problem in details in the chapter 4 (pp.45 – 58); on reliability of forecasts of firm's business in the means of contemporary technological changes.

<sup>8</sup>It is interesting that very often in their business plans, firms plan significant improvements in business, production, placement, and efficiency and similar. Comparing them with their financial statements of the previous period, you get the impression it is not the same firm.

**Boris Tušek, Ph.D, Full professor**

University of Zagreb, Faculty of Economics and Business  
JF Kennedy 6, 10 000 Zagreb, Croatia  
Phone: 00385-1-2383-195 Fax: 00385-1-233-5633  
E-mail address: btusek@efzg.hr

**Ana Novak, Ph.D, Assistant professor**

University of Zagreb, Faculty of Economics and Business  
JF Kennedy 6, 10 000 Zagreb, Croatia  
Phone: 00385-1-2383-116 Fax: 00385-1-233-5633  
E-mail address: anovak@efzg.hr

**Ivana Barišić, Ph.D, Assistant professor**

University of Zagreb, Faculty of Economics and Business  
JF Kennedy 6, 10 000 Zagreb, Croatia  
Phone: 00385-1-2383-116 Fax: 00385-1-233-5633  
E-mail address: ibaristic@efzg.hr

**INTERNAL AUDIT ROLE IN CORPORATE GOVERNANCE - STATE AND  
FUTURE PERSPECTIVES**

**ULOGA INTERNE REVIZIJE U KORPORATIVNOM UPRAVLJANJU-  
STANJE I PERSPEKTIVE BUDUĆEG RAZVOJA**

***ABSTRACT***

*Internal audit, as corporate governance internal monitoring mechanism, has special significance in recent years. A basic prerequisite for understanding the role of internal audit in corporate governance is analyzing the association between the internal audit, internal control and corporate governance. Namely, in order to ensure the successful business operation, and to protect the interests of the capital owners, management is interested in establishing an adequate system of internal control to support the achievement of its objectives. Information about extent of management's control in the company therefore is undoubtedly of great importance. Internal audit activities that include participation in the risk management processes and assessment of internal control effectiveness directly affect the quality of corporate governance, through its connection with other governance participants. By providing objective assurance on the effectiveness of the risk management, internal control and corporate governance and consulting services to improve in key areas, internal audit completes the quality of governance process which improves possibilities for achieving company's objectives and helps to reduce the risk exposure. In addition, internal audit provides information that directly contributes to the quality of decision-making process both for internal and external users, thus optimizing the use of limited organizational resources. Development of the internal audit activity is a result of response to changes in business that are taking place globally. In recent years, companies are faced with major changes related to the development of business, technology, and regulatory requirements, especially after major corporate scandals and the crisis that followed. That enabled internal audit opportunity to extend the scope of work according to the needs and new demands, acting as a support to management*

*but also to other governance bodies, such as the Audit Committee. This paper is aimed to analyze the importance of internal audit in corporate governance, its modern role and also tendencies of future development.*

**Key words:** *Corporate governance, Mechanisms of corporate governance, Internal audit, Internal control*

## **SAŽETAK**

*Interna revizija, kao interni nadzorni mehanizam u sustavu korporativnog upravljanja, posljednjih godina posebno dobiva na značaju. Temeljna pretpostavka za razumijevanje uloge interne revizije u korporativnom upravljanju je analiziranje povezanosti interne revizije, interne kontrole i korporativnog procesa upravljanja. Naime, kako bi osigurao uspješno poslovanje poduzeća, te njegov razvoj, ali i zaštitio interese vlasnika kapitala, menadžment poduzeća je zainteresiran za uspostavljanje odgovarajućeg sustava internih kontrola kao podrške ostvarivanju njegovih ciljeva. Informacije u kojoj mjeri su u poduzeću "stvari pod kontrolom" menadžmentu su, stoga, nedvojbeno od velike važnosti. Aktivnosti interne revizije koje uključuju sudjelovanje u procesima upravljanja rizicima poduzeća i procjenjivanje učinkovitosti internih kontrola direktno utječu na kvalitetu korporativnog upravljanja, i to kroz njezinu povezanost s ostalim sudionicima. Kroz osiguravanje objektivnog jamstva o učinkovitosti procesa upravljanja rizicima poduzeća upotpunjuje kvalitetu upravljačkog procesa, čime se unaprijeđuju mogućnosti za postizanje ciljeva poduzeća te utječe na smanjenje izloženosti rizicima. Osim toga, interna revizija osigurava informacije koje neposredno pridonose kvaliteti poslovnog odlučivanja internih i eksternih korisnika, čime se optimizira korištenje ograničenih organizacijskih resursa. Razvoj aktivnosti interne revizije rezultat je odgovora na promjene u poslovanju poduzeća koje se odvijaju na globalnoj razini. Posljednjih godina, poduzeća su se suočavala s velikim promjenama vezanim uz razvoj poslovanja, tehnologije, ali i regulatornih zahtjeva, posebno nakon velikih korporativnih skandala i kriza koje su uslijedile, što je omogućilo internoj reviziji priliku da proširenjem djelokruga rada sukladno potrebama i novim zahtjevima koji su pred nju stavljeni, djeluje kao potpora menadžmentu, ali i ostalim odborima unutar poduzeća, kao što je revizijski odbor. Cilj rada je analizirati značaj interne revizije u korporativnom upravljanju, njezinu suvremenu ulogu, ali i tendencije razvoja aktivnosti u budućnosti.*

**Ključne riječi:** *Korporativno upravljanje, Mehanizmi korporativnog upravljanja, Interna revizija, Interne kontrole*

## **1. Introduction**

According to the new, revised definition for the 21st Century, by the Institute of Internal Auditors (IIA Global) "internal auditing is an independent, objective assurance and consulting activity designed to add value and improve an organization's operations. It helps an organization accomplish its objectives by bringing a systematic, disciplined approach to evaluate and improve the effectiveness of risk management, control, and governance processes." This definition of internal auditing contains two main activities: assurance and consulting services. The purpose of the assurance services is to assess the adequacy of company's internal controls, risk management processes and corporate governance, as well as testing the compliance with laws and regulations. This process results in recommendations and implementation of these recommendations is followed up by internal auditors, in the final phase of internal auditing. The purpose of the consulting services is to provide advice on increasing efficiency and effectiveness, help in the creation of corrective actions or implementing new controls. Consulting

service is taking place between the internal auditor and the client, usually operational management (Anderson & Dahle, 2009, p. 29).

Through its assurance and consulting services Internal Audit adds value to the company (The Institute of Internal Auditors, 2012). By providing objective assurance on the effectiveness of the risk management, internal control and corporate governance and consulting services to improve in key areas, Internal Audit completes the quality of governance process which improves possibilities for achieving company's objectives and helps to reduce the risk exposure. Company's objectives are a framework for defining the objectives of Internal Audit itself, and that connection is the basis for the understanding the relationship in which the internal audit activity is focused on helping the company to meet its objectives (Reading et al., 2007, p.1-3).

The Institute of Internal Auditors, in order to facilitate the understanding the Internal Audit role, created a value proposition, based on "assurance, insight, and objectivity", as "three core elements of value delivered by internal auditing to an organization". According to this proposition, the importance of Internal Audit arises from the need of governing bodies and senior management that "rely on internal auditing for objective assurance and insight on the effectiveness and efficiency of governance, risk management, and internal control processes" (The Institute of Internal Auditors, 2012). The paper analyzes the internal audit role in Corporate Governance with special emphasis on perspectives of its future development.

## **2. The role and importance of Internal Audit in Corporate Governance - Internal Audit as an internal mechanism of Corporate Governance**

A basic prerequisite for understanding the role of Internal Audit in corporate governance is analyzing the association between the Internal Audit, internal control and corporate governance. Namely, in order to ensure the successful operation of the company and its development, and to protect the interests of the owners of capital, management is interested in establishing an adequate system of internal control to support the achievement of its objectives. Cadbury Committee in its report (1992, pt.4.32) states that "an effective system of control is a key aspect of effective corporate governance".

Although there are many definitions of internal control, they basically do not differ with respect to similarly stated extensive scope of internal control and their relationship with the company's mission and goals. According to the Committee of Sponsoring Organizations of the Treadway Commission, known as COSO, internal control is broadly defined as "a process, effected by an entity's board of directors, management and other personnel, designed to provide reasonable assurance regarding the achievement of objectives in the following categories: effectiveness and efficiency of operations, reliability of financial reporting, compliance with applicable laws and regulations" (Vorhies, 2004, p.12).

Internal control system is usually analyzed through five interrelated components (Vorhies, 2004, p. 86), according to the framework developed by COSO: control environment, risk assessment, control activities, information and communication and monitoring. Although the internal control system can function effectively with the support of the management, control activities and information and communication, in order to assess the effectiveness and quality of that system it has to be monitored. In that sense, the most important role, especially in large companies and in terms of complex business operations, lies upon Internal Audit. Cadbury Committee (1992, pt.4.39) considers the establishment of the internal audit function "a good practice" for the company because regular monitoring of key controls and procedures carried out by the Internal Audit is "an integral part of the internal control

system of the company and helps to ensure its effectiveness." Moeller (2009, p. 4.) considers Internal Audit as a control within the company whose basic function is evaluating and determining the effectiveness of other controls. Namely, management must monitor processes in order to have the information on to the degree of accomplishment and compliance with planned actions, which is achieved through control. Internal Audit itself is one of the control instruments, and the difference in regard to other control instruments arises from its basic role - evaluating other controls in the company (Moeller, 2009, p. 4).

Institute of Internal Auditors in 2006 published a position paper regarding the role of Internal Audit in corporate governance. According to IIA, Internal Audit has a dual role: providing support to management and positioning as a partner to management in the process of organization and monitoring the system for effective corporate governance. It is stated that by providing assurance services on the effectiveness of risk management, control and governing processes, Internal Audit is becoming a key cornerstone underlying the effective management of the company (The Institute of Internal Auditors, 2006). Gramling and Hermanson (2006) share the similar view, and position Internal Audit in corporate governance as an information resource, assurance service, advice and expertise provider to the Board and the Audit Committee, bodies on which lies the greatest responsibility for effective corporate governance. Gramling et al. (2004) expanded perspective, adopting an approach that considers corporate governance through the four cornerstones, which along with internal audit include additional External Audit, Audit Committee and Management. Internal Audit contributes to the corporate governance through relations with the other three participants. The internal and external audits are traditionally associated, but with the growing demands related to corporate governance, the relationship is even more profound. External auditors can rely on the work of internal auditors whose knowledge of the business and more thorough understanding of the company's risks can help external audit to be more effective. The Audit Committee, focused on monitoring in regard to financial reporting, controls and risk management, relies on Internal Audit when carrying out its responsibilities, as well as management, supplied with the information by Internal Audit in regard to the assessment of internal control and risk management process and information concerning other areas of use.

Ruud (2003, p. 88) considers that Internal Audit can contribute to "effective governance in several ways: it can assist in the identification of risk factors, the analysis of the consequences, as well as in assisting management in the prioritization of risk management and control systems, it can add assurance that the risk management processes in fact are functioning as intended and through consulting services, the internal audit function can furthermore assist management and the board by improving risk management and control processes." Similarly, Porter (2008) discusses the importance of Internal Audit along with the External Auditors and the Audit Committee, as a tripartite audit function to ensure corporate accountability that relates to the management's responsibility with regard to the efficient and effective use of company's resources, as well as social efficient and effective management. Author concludes that its role and responsibilities are developing in parallel with those of management. The scope of activities, concentrated around assessing the effectiveness of internal control which were initially focused on those related to the reliability of financial reporting, expanded to assess all other categories of internal controls related to ensuring the efficiency and effectiveness of business operations and compliance with applicable laws and regulations, but also the processes of risk management, fraud detection, and on help with the ethical aspects.

In the context of adding value to the company, European Confederation Institutes of Internal Auditors (2005, p. 37) sees Internal Audit contribution in providing independent and objective assessment of the internal control quality and a through comprehensive review of the risks facing the company presented to the Audit committee and senior management. It enables senior management and the Audit Committee

another view perspective, regard to the one that they already have. The scope of Internal Audit activities is defined by the Standards, however, the final decision on the scope has to be aligned with the needs of company's management. Internal Audit (IIA UK & Ireland 2003, cited in D'Silva & Ridley, 2007, pp.121-122) on the minimum should report on: "the control environment as a whole, the processes by which risks are identified, analysed and managed, controls over key operational and functional processes, processes that deliver change and systems development initiatives, the reliability and integrity of management information and the safeguarding of assets."

### **3. The recent trends in internal auditing and perspectives of future development**

Development of the internal audit activity is a result of response to changes in business enterprise that are taking place globally. In recent years, companies are faced with major changes related to the development of business, technology, and regulatory requirements, especially after major corporate scandals and the crisis that followed. That enabled Internal Audit opportunity to extend the scope of work according to the needs and new demands, acting as a support to management but also to other bodies within the company such as the Audit Committee.

In the Americas literature review on internal auditing Hass et al. (2006) noted a significant change and a shift in the organization and the activities that are the focus of Internal Audit that were largely influenced by regulatory changes, first of all Sarbanes-Oxley Act (SOX). The results of SOX were significant and extensive regulatory requirements related to the internal controls over financial reporting. In this regard, one of the most important parts of Act was Section 404 Management Assessment of Internal Controls. Section 404 required an annual report on internal controls, which emphasized the management's responsibility for establishing and maintaining adequate structure of internal controls over financial reporting. The report implies an obligation to assess the effectiveness of the internal controls over financial reporting structure. Although the provisions of this section are not directly related to Internal Audit, nor is its role explicitly mentioned within the Act, the provisions contained in section 404 very much influenced its activity in the years of post Sarbanes-Oxley era. According to Hass et. al. (2006) that influenced the position of the Internal Audit mainly focused on detecting deficiencies of internal controls and had impact on its increasing involvement in the process of documenting and assessing of internal controls over financial reporting. Supporting the management in meeting the responsibilities and obligations required by SOX was considered the legitimate Internal Audit role even by the Institute of Internal Auditors (D'Silva & Ridley, 2007, p.119). According to some research, that has contributed to the increase of the staff number in the Internal Audit departments, increase of their budgets as well as communication with the Audit Committee (Carcello, et al., 2005).

However, the regulatory climate that has affected the routing Internal Audit resources towards providing assurance on meeting the requirements of SOX, at the same time affected the reallocation of Internal Audit resources from other important activities and other areas, such as operational audits or consulting services. Inability to identify company's risks that are important for the strategic direction and operational activities, in phase of the internal audit planning, reduces its effectiveness (Hass, et. al., 2006, p.838). Some authors state that highlighted internal audit focus on compliance can lead to a negative stakeholder's perception that Internal Audit returned to performing stereotypical duties, which represents reputational risk for the internal audit function and possible retrieve the image of "company's policeman" (IIARF, 2007 p.375).

In the context of the Internal Audit development prospects, results of the study carried out in 2011 on a sample of more than 300 CAE's of private and public companies throughout the United States should



be noted. According to results, Internal Audit is expanding the scope of work beyond the areas that were derived from SOX requirements and is ready to face new challenges, which are aligned with the new requirements of the profession. The results highlight the area of risk management, and in particular the risks of fraud, information technology and the risks of non-compliance with regulatory changes as a high priority of the internal audit activity's future focus (Grant Thornton, 2011). Similar conclusions were reached in the research study, part of Common Body of Knowledge (CBOK), in 2011 (Bolger, 2011, pp. 11-12), which analyzed the perception of internal audit stakeholders (members of the audit committee and executive management) in the USA. Most respondents considered Internal Audit as significant consulting resource or a function that can help with the problems prevention and to improve company's business performance. With integration of SOX requirements in most companies, Internal Audit again focuses on the role of "trusted business consultant" that can help the company in achieving not only regulatory compliance, but also its objectives related to efficiency, growth and profitability (Ibd., p.11).

Although Internal Audit is a relatively new profession in most European countries (European Confederation of Institutes of Internal Auditing, 2007, p.137), its importance and involvement in processes of corporate governance is in constant growth, influenced by changes in the regulatory environment in Europe. According to the study on the practice of internal auditing in Europe, whose results were published by European Confederation of the Institute of Internal Auditors (2007) and derived from the CBOK study in 2006, generally prevailed traditional internal audit activities such as operational audit and audit of internal control development. General view of the respondents was that internal auditing will continue to develop in the next five years and gain new responsibilities, primarily in the area of risk management. Allegrini, et al. (2006) reviewed the most important internal auditing research in Europe. According to the findings, most research suggested a shift in internal audit activities, which was influenced by changes in the external environment and regulatory changes, as well as internal audit Standards that provide a framework for the implementation of its activity.

Research Foundation of the Institute of Internal Auditors published a study Common Body of Knowledge 2006 (CBOK), as part of the ongoing research on the practice of internal auditing throughout the world. The study included 9,366 members of the Institute of Internal Auditors around the world and at the time represented the most extensive study ever conducted in the field of internal auditing. Based on lists of specific audit areas, respondents assessed in what areas their activity was most present and the ones that they believed will be the in the focus of their work in the future. The four highest rated areas within the scope of their work were: the prevention of fraud (69% of respondents), risk management (66.6% of respondents), supervision of compliance with relevant legislation (64% of respondents) and corporate governance (52.2% of respondents), and these were the areas that would be in the focus of their activity in the future years (The Institute of Internal Auditors Research Foundation, 2007). Maximizing the value of the internal audit function is imperative and necessary condition for its adjustment to changing business environment. According to a survey on the state of the internal audit profession in 2010 (Alkafaji, et al., 2010), in the next few years, Internal Audit needed to expand the scope of its activities beyond the traditional areas towards corporate governance, risk management, evaluation the achievement of strategic business plans in relation to performance and ethics (Alkafaji, et al., 2010, pp.25-26).

According to previous research, internal audit activities tend to develop in order to correspond to those contained in its modern Definition. This primarily reflects through growing presence of the internal audit function in the risk management process. Leading European organization that promotes the importance of risk management, the Federation of European Risk Management Associations (FERMA) in 2008 conducted a survey among 555 respondents from Europe's largest companies. Out of the 399

companies that had internal audit department, almost 30% of them responded that there is a tight connection between the internal audit department and the risk management process which is reflected through sharing information on mutual benefit, and in other companies there was a tendency for tightening or forming this connection. In companies where Internal Audit was involved in the risk management process, management also handled more complex risks on the corporate level. Unlike them, in companies where the Internal Audit did not participate in the risk management process, management focused on operational risks (Federation of European Risk Management Association & AXA Corporate Solutions and Ernst & Young, 2008).

Since 2009, The IIA's Audit Executive Center annually conducts research on current practices, trends and challenges of Internal Audit. Questions from the latest survey are in cooperation with The IIA Research Foundation, included in the global CBOK research for 2015. The study analyzed responses of more than 4,900 CAE and directors (senior managers) from 166 countries worldwide. According to the survey "47% of CAE and director respondents provide assurance on individual risks, 46% provide assurance on risk management as a whole, and 56% percent provide advice and consulting on risk management activities" (The Institute of Internal Auditors Research Foundation, 2015, p. 9). Regarding the relationship of the Internal Audit and Enterprise Risk Management (ERM), 12% percent of CAE and director respondents reported that "and ERM are separate functions, with no interaction and „66% „reported that although they are separate functions, Internal Audit and ERM are more collaborative with the two staffs coordinating and sharing knowledge“ (72% respondents were from Europe and Central Asia) (Ibid., p.10). Along with this, the report advocates the need for Internal Audit to expand the scope of work. Since interested parties and stakeholders pay more and more attention to the non-financial reporting, such as integrated and sustainability reporting, there is a chance for the Internal Audit to expand its domain by providing an assurance in the aforementioned areas. In addition to the above, it is stated in the report that the CAE's, in order to be able to deal with the wide range of sensitive issues facing their organizations, need the courage to "withstand the political pressures of their role" and "appropriate mechanisms of defence" are "independence, board support, and a quality internal audit function" (The Institute of Internal Auditors Research Foundation, 2015, p.21).

Tušek and Žager (2007, p.416) argue that the constant Internal Audit adapting to the environmental conditions through developing new audit products and services is a necessary prerequisite of its success. Considering the latest development tendencies in internal auditing, they emphasize internal audit preventive action, acting as management assistance and support in predicting future risks and propose adequate internal control system as instrument of their governance.

It can be concluded that the internal audit activities which include participation in the processes of risk management and assessment of the effectiveness of internal controls directly affect the quality of corporate governance, through its association with other participants. Internal auditing is an important factor in achieving effective management and is considered "an integral part of the corporate governance mosaic" (Cohen, et al., 2004, p. 35) and "continuing contributor to the development of corporate governance practices worldwide" in the private and public sector (D 'Silva & Ridley, 2007, p. 114).

#### **4. Conclusion**

Internal Audit, as an internal monitoring mechanism in the system of corporate governance, has special significance in recent years. Information about extent of management control in the company is undoubtedly of great importance. Internal Audit, in this regard, has a special importance in the company

through its consulting role and providing relevant information to management structures for business decision-making.

Internal Audit is not an end in itself but acts to provide support and help to the company in achieving its objectives, indirectly through support to its stakeholders, primarily management. In order to be successful and justify their existence and activity, it is necessary for Internal Audit to constantly adapt to environmental conditions by developing new audit products and services. By developing new products and services, auditors are actively involved and contribute to the achievement of company objectives. Adaptive behaviour and the ongoing Internal Audit adjustment to changing environmental conditions, becomes *conditio sine qua non* of its further development.

The success of the Internal Audit profession in the future depends on itself. In accepting the challenges it is necessary to focus all efforts in the areas and the problems occupying modern management and build and maintain good communication and relationships with all management levels. In this way, internal auditors will get a well-deserved trust and support to their work, which is the basic prerequisite for the implementation of all these modern trends in internal auditing.

## REFERENCES

- Alkafaji, Y., Hussain, S., Khallaf, A. & Majdalawieh, M. A. (2010): *The IIA's Global Internal Audit Survey: A Component of the CBOK Study - Characteristics of an Internal Audit Activity (Report I)*, Altamonte Springs, Florida: The Institute of Internal Auditors Research Foundation.
- Allegrini, M., D'Onza Giuseppe, P. L. & Melville Robert, S. G. (2006): *The European literature review on Internal Auditing*, Managerial Auditing Journal, 21(8), pp. 849-850.
- Anderson, D. & Dahle, A. J. (2009): *Implementing the International professional practices Framework*, 3<sup>rd</sup>ed, Altamonte Springs, Florida: The Institute of Internal Auditors Reserach Foundation.
- Bolger, D. (2011): *A call to action: Stakeholders perspectives on Internal Auditing- A component of the CBOK study*, Altemonte Springs, Florida: The Institute of Internal Auditors Reasarch Foundation.
- Carcello, J. V., Hermanson, D. R. & Raghunandan, K. (2005): *Changes in Internal Auditing during the Time of the Major U.S. Accounting Scandals*, International Journal of Auditing, 9(2), pp. 117-127.
- Cohen, J., Krishnamoorthy, G. & Wright, A. (2004): *The corporate governance mosaic and financial reporting quality*, Journal of Accounting Literature, pp. 87-152.
- D'Silva, K. D. & Ridley, J. (2007): *Internal Auditing's international contribution to governance*, International Journal of Business and Ethics, 3(2), pp. 113-126.
- European Confederation of Institutes of Internal Auditing (2005): *Internal Auditing in Europe- Position Paper*, www.eciia.eu. Accessed: 8<sup>th</sup> June, 2015.
- European Confederation of Institutes of Internal Auditing (2007): *Common Body of Knowledge in Internal Auditing: A state of Art in Europe*, Berlin: Erich Schmidt Verlag.
- Federation of European Risk Management Association; AXA Corporate Solutions; Ernst & Young (2008): *FERMA Risk Management Benchmarking Survey 2008: Keys to Understanding Diversity of Risk Management Practices in Europe*. <http://www.ferma.eu/AboutFERMA/Benchmarkingsurveys/tabid/137/Default>. Accessed: 8<sup>th</sup> April, 2015.

- Gramling, A. A. & Hermanson, D. R. (2006): *What role is your Internal Audit function playing in corporate governance?*, *Internal Auditing*, 21(6), pp. 37-39.
- Gramling, A. A., Maletta, M. J., Schneider, A. & Church, B. K. (2004): *The role of Internal Audit function in Corporate Governance: A synthesis of the extant Internal Auditing literature and directions for future research*, *Journal of Accounting Literature* (23), pp. 194-224.
- Grant Thornton (2011): *Looking to the future: Perspectives and trends from Internal Audit leaders- Chief Audit Executive Survey*, <http://www.gt.com/staticfiles/GTCom/Advisory/Advisory%20publications/CAE%20survey/CAE-Survey-2011.pdf>. Accessed: 8<sup>th</sup> June, 2015.
- Hass, S., Abdolmohammadi & Burnaby, P. (2006): *The Americas literature review on Internal Auditing*, *Managerial Auditing Journal*, 21(8), pp. 835-844.
- IIA Global, *Definition of Internal Auditing*, <https://na.theiia.org/standards-guidance/mandatory-guidance/Pages/Definition-of-Internal-Auditing.aspx>. Accessed June 15<sup>th</sup>, 2015.
- Moeller, R. (2009): *Brink's modern Internal Auditing- A Common Body of Knowledge*, 7 ur. New Jersey: John Wiley and Sons.
- Porter, B. A. (2008): *The role of the tripartite audit function in securing corporate accountability*, (64). School of Accounting and Commercial Law Victoria University of Wellington, Wellington, New Zealand. <http://www.victoria.ac.nz/sacl/cagtr/working-papers/WP64.pdf>. Accessed: June 3<sup>rd</sup>, 2015.
- Ruud, F. (2003): *The internal audit function: an integral part of organizational governance*, in: *Research opportunities in internal auditing*, Altamonte Springs, Florida: The Institute of Internal Auditors Research Foundation, pp. 73-96.
- The IIA Research Foundation (IIARF) (2007): *A Global Summary of the Common Body of Knowledge (CBOK) 2006*, Altamonte Springs, Florida: The IIA Research Foundation.
- BIBLIOGRAPHY \ 1050 The Institute of Internal Auditors (2006): *Position paper: Organizational governance-guidance for Internal Auditors*, Altamonte Springs, Florida: The Institute of Internal Auditors.
- The Institute of Internal Auditors (2012): *Value Proposition: Internal Auditing's Value to Stakeholders*, <https://na.theiia.org/about-us/about-ia/pages/value-proposition.aspx>. Accessed: June 1st, 2015.
- The Institute of Internal Auditors Research Foundation (2015): *Global pulse of Internal Audit- Embracing Opportunities in a Dynamic Environment*, The Institute of Internal Auditors Research Foundation.
- Tušek, B. & Žager, L. (2007): *Revizija*, Drugo izmijenjeno i dopunjeno izdanje. Zagreb: Hrvatska zajednica računovoda i financijskih djelatnika.
- Vorhies, J. B. (2004): *Key controls: The solution for Sarbanes- Oxley International Control Compliance*, Altamonte Springs, Florida: The Institute of Internal Auditors research Foundations.

**Edward Veckie, MBA, P.Eng., PhD Candidate**

Unified Engineering.com Corp.

Postal Address: 171 Niagara Street, Hamilton, ON, L8L 6A8, Canada

Phone: +1 905 523-1700

E-mail address: eveckie@unifiedengineering.com

**Ivan Uroda, PhD**

University of Rijeka, Faculty of Economics

Postal Address: Ivana Filipovića 4, 51000 Rijeka, Croatia

Phone: +385 51 355 151

E-mail address: ivan.uroda@gmail.com

**RESEARCH INTO SIGNIFICANCE OF CROATIA IN CANADIAN  
IMPORTS AND EXPORTS WITHIN VARIOUS INDUSTRIES**

**ISTRAŽIVANJE O ZNAČAJNOSTI HRVATSKE U KANADSKOM UVOZU I  
IZVOZU UNUTAR RAZLIČITIH INDUSTRIJA**

**ABSTRACT**

*Research purpose of this scientific paper is to provide the objective, focused and systematic assessment of rankings that Croatia actually has in Canadian imports and exports of certain industries. In those terms, numerous official statistic data provided by Government of Canada was selected as the primary source of information to fulfil this scientific paper's specific research purpose.*

*Regarding utilized research methods and approaches, in this scientific paper authors have exclusively used only the most relevant data by Government of Canada's Office of the Chief Economist under Trade and Economic Statistics section and Trade Investment and Economic Statistics subsection were utilized as the primary source of numerical data for this comprehensive assessment because of its consistency, reliability and availability. Moreover, the auxiliary statistical data by other relevant organizations and bodies was utilized to better position both of those countries i.e. Croatia and Canada as well as other countries included in this scientific paper within international trade framework and boundaries.*

*Major research results within this scientific paper have primarily encompassed conclusions deriving from the multi-year comparative numerical analysis between Croatia and Canada in conjunction with comparisons, analysis and evaluation of numerous top-level industries, middle-level industries and low-level industries in the last 5 years with available data i.e. 2011-2015. Essentially, special care was taken of preparation, calculation and presentation of those major research results, so that they can be utilized both for continuation of this scientific research and as a source of information for anyone who might have the interest in this topic or the certain fraction of it.*

*Main implications of this scientific paper center around the fact that only such objective, focused and systematic assessments of the past tendencies can lead to concrete movements, improvements and prosperity in terms of Croatian and Canadian international trade.*

**Key words:** Croatia, Canada, Imports, Exports, Industries

## SAŽETAK

*Svrha istraživanja ovog znanstvenog rada je pružiti objektivne, usmjerene i sistematične ocjene rangova koje Hrvatska zapravo ima u kanadskom uvozu i izvozu određenih industrija. U tom smislu, mnogobrojni službeni statistički podaci koje pruža kanadska vlada su izabrani kao primarni izvor informacija kako bi se ispunila specifična svrha istraživanja ovog znanstvenog rada.*

*Vezano za korištene znanstvene metode i pristupe istraživanja, u ovom znanstvenom radu autori su isključivo koristili samo najrelevantnije podatke od strane kanadske vlade i njenog ureda glavnog ekonomista u sekciji o trgovinskoj i ekonomskoj statistici, te podsekciji o trgovinskim, investicijskim i ekonomskim statistikama koje su korištene kao primarni izvor numeričkih podataka za ovu sveobuhvatnu ocjenu zbog njihove konzistentnosti, pouzdanosti i dostupnosti. Nadalje, pomoćni statistički podaci od strane drugih relevantnih organizacija i tijela su korišteni za bolje pozicioniranje obje države, odnosno Hrvatske i Kanade kao i drugih država koje su uključene u ovaj znanstveni rad unutar međunarodnih trgovinskih okvira i granica.*

*Glavni rezultati istraživanja unutar ovog znanstvenog rada prvenstveno sadrže zaključke na temelju višegodišnje komparativne analize između Hrvatske i Kanade zajedno s usporedbama, analizama i procjenama mnogobrojnih industrija visoke, srednje i niže razine na temelju posljednjih 5 godina za koje su dostupni podaci, odnosno od 2011. do 2015. godine. U suštini, specijalna pažnja je dana pripremi, izračunu i prezentaciji glavnih rezultata istraživanja, kako bi se mogli koristiti za nastavak ovog znanstvenog istraživanja i kao izvor informacija za nekoga tko bi mogao biti zainteresiran za ovu temu ili neki njen dio.*

*Glavne implikacije ovog znanstvenog rada vezane su uz činjenicu da samo ovako objektivne, usmjerene i sistematične ocjene prošlih tendencija mogu dovesti do konkretnih pomaka, poboljšanja i prosperiteta vezano za međunarodnu trgovinu između Hrvatske i Kanade.*

**Ključne riječi:** Hrvatska, Kanada, Uvoz, Izvoz, Industrije

### 1. Introduction

On the surface, it may seem that Croatia and Canada have very little in common, especially when it comes to imports, exports and international trade. There are many reasons for these misconceptions. It is predominantly because Croatia is often perceived as one of the Europe's smaller countries, while Canada is often perceived as one of the World's largest countries. Moreover, aerial distance between Croatia's westernmost point and Canada's easternmost point is almost 5000 kilometres with Atlantic Ocean between European landmass and North American landmass is what creates primarily conceptual, practical, social, technical and temporal barriers against imports and exports in the eyes of the significant number of people.

However, emphasis of this scientific paper was put on numerous general, economic and business datasets that clearly, methodically and unambiguously represent realistic overview of relevant import-related and export-related differences and similarities between Croatia and Canada. Exclusively by utilizing such objective and unprejudiced approach authors were able to both analyze and synthesize the state and the history of the most significant data in this regard.

Thus, absolute data was represented in Canadian Dollars (abbr. CAD), American Dollars (abbr. USD) and other units, while relative data was represented in percentages (sym. %). All absolute and relative data was included in 5 tables, 2 lists and within the text in the most concise, effective and logical way.

## 2. Selected comparisons between Croatia and Canada

Both the easiest and the most obvious way to compare countries is by using various aggregate data. In that regard, there are comparisons of countries such as comparisons between Croatia and Canada where vast majority of aggregate data undoubtedly and unambiguously gives the decisive advantage to one of the countries over the other country. Rationally, in this case it is Canada over Croatia.

Thankfully, there is much more appropriate way to compare such countries. That way clearly implies the utilization of various per capita data that then serves as common denominator between countries. Then again, in order to emphasize Croatia's comparisons to Canada authors have made a choice and an effort to select the most representative data that was carefully structured in the table below. Purposely, indicators were sorted alphabetically and values were calculated as period-wise averages.

*Table 1 Comparisons between Croatia and Canada by selected per capita data*

Selected per capita data	Unit	Period	Croatia	Canada
Carbon dioxide emissions	metric tons	2011	4,75	14,08
Electric power consumption	kiloWatt-hours	2011-2012	3.859,95	15.891,15
Energy use	kilograms of oil equivalent	2011-2012	1.413,25	7.296,15
Gross Domesitc Product (Current Prices)	USD	2011-2014	13.648,25	51.694,00
Gross National Income	USD	2011	13.850,00	45.560,00
Gross National Income (Atlas method)	USD	2011-2014	13.487,50	50.577,50
Gross National Income (Purchasing Power Parity)	USD	2011	19.330,00	39.830,00
Total expenditure on health	USD	2011-2012	950,05	5.698,55

*Source: Created by authors*

Even with a presented choice of data and average values it can be observed that Canada is superior to Croatia by all listed data. However, sometimes a small country like Croatia can prove itself as worthy import and export partner to a much larger country that has innumerable inputs and outputs.

## 3. Significance of Croatia in Canadian imports

When it comes to significance of Croatia in Canadian imports, authors have purposely and thoroughly made both the analysis and the synthesis of data in 3 separate paragraphs. Each paragraph contains certain fraction of research findings that were sensibly and chronologically sorted.

List in continuation was created by authors based on top 10 Canadian industries that imported to Canada from Croatia 2011-2015. This list contains a total of 20 industries and that is because top 10 was prone to changes with every passing year. Moreover, list was sorted in ascending order according to the matching North American Industry Classification System (abbr. NAICS) codes.

*List 1 Top Canadian industries that imported to Canada from Croatia 2011-2015*

31142 Fruit and Vegetable Canning, Pickling and Drying; 31182 Cookie, Cracker and Pasta Manufacturing;
31522 Men's and Boys' Cut and Sew Clothing Manufacturing; 31523 Women's and Girls' Cut and Sew Clothing Manufacturing; 31621 Footwear Manufacturing; 32519 Other Basic Organic Chemical Manufacturing;
32541 Pharmaceutical and Medicine Manufacturing; 32731 Cement Manufacturing; 33111 Iron and Steel Mills and Ferro-Alloy Manufacturing; 33121 Iron and Steel Pipes and Tubes Manufacturing from Purchased Steel; 33131 Alumina and Aluminum Production and Processing; 33242 Metal Tank (Heavy Gauge) Manufacturing; 3334 Ventilation, Heating, Air-Conditioning and Commercial Refrigeration Equipment Manufacturing; 33351 Metalworking Machinery Manufacturing;

33361 Engine, Turbine and Power Transmission Equipment Manufacturing; 33391 Pump and Compressor Manufacturing; 33531 Electrical Equipment Manufacturing; 33632 Motor Vehicle Electrical and Electronic Equipment Manufacturing; 33661 Ship and Boat Building; 33721 Office Furniture (including Fixtures) Manufacturing

Source: Created by authors

It is significant to note that all these 20 industries belong to Canadian Manufacturing sector. That is excellent information, incentive and green light for all Croatian manufacturers, especially for the ones who are actively involved in aforementioned industries. Canadians quite obviously value Croatian manufactured goods what represents the exceptional export opportunity for companies seeking benevolent foreign markets and favourable opportunities abroad.

Table below was created based on the absolute and the relative yearly imports values of variable top 10 Canadian industries that imported to Canada from Croatia 2011-2015.

**Table 2 Imports values of top Canadian industries that imported to Canada from Croatia 2011-2015**

NAICS code	2011 imports in CAD	2011 imports in %
31142	2.236.919 CAD	8,29%
31182	1.285.392 CAD	4,77%
31522	1.676.020 CAD	6,21%
31523	1.273.374 CAD	4,72%
31621	1.563.354 CAD	5,80%
32731	1.309.197 CAD	4,85%
33121	996.335 CAD	3,69%
33131	3.186.826 CAD	11,82%
33361	2.822.154 CAD	10,46%
33531	912.879 CAD	3,39%
<b>top 10 imports CA from HR</b>	17.262.450 CAD	64,00%
<b>imports CA from HR</b>	26.968.150 CAD	100,00%
<b>imports CA from world</b>	44.663.900.455.400 CAD	
<b>imports CA from HR versus world</b>		0,000060%
NAICS code	2012 imports in CAD	2012 imports in %
31142	2.157.511 CAD	6,55%
31182	1.142.915 CAD	3,47%
31522	1.100.925 CAD	3,34%
31523	1.338.174 CAD	4,06%
31621	1.754.591 CAD	5,32%
32541	2.021.055 CAD	6,13%
32731	1.535.516 CAD	4,66%
33131	3.438.326 CAD	10,43%
33341	6.998.553 CAD	21,23%
33391	1.314.787 CAD	3,99%
<b>top 10 imports CA from HR</b>	22.802.353 CAD	69,18%
<b>imports CA from HR</b>	32.960.638 CAD	100,00%
<b>imports CA from world</b>	46.207.180.185.500 CAD	
<b>imports CA from HR versus world</b>		0,000071%



NAICS code	2013 imports in CAD	2013 imports in %
31142	2.458.475 CAD	2,58%
31522	1.223.404 CAD	1,29%
31621	2.606.422 CAD	2,74%
32519	4.921.671 CAD	5,17%
32541	11.375.613 CAD	11,95%
32731	1.291.452 CAD	1,36%
33131	3.598.119 CAD	3,78%
33242	2.346.328 CAD	2,46%
33531	2.227.696 CAD	2,34%
33661	49.713.822 CAD	52,23%
<b>top 10 imports CA from HR</b>	<b>81.763.002 CAD</b>	<b>85,90%</b>
<b>imports CA from HR</b>	<b>95.191.501 CAD</b>	<b>100,00%</b>
<b>imports CA from world</b>	<b>47.566.069.509.600 CAD</b>	
<b>imports CA from HR versus world</b>		<b>0,000200%</b>
NAICS code	2014 imports in CAD	2014 imports in %
31142	2.662.291 CAD	4,80%
31621	2.144.689 CAD	3,86%
32541	9.971.827 CAD	17,97%
32731	1.784.293 CAD	3,22%
33111	1.756.200 CAD	3,16%
33131	5.579.298 CAD	10,05%
33351	2.676.543 CAD	4,82%
33361	2.463.544 CAD	4,44%
33531	7.577.746 CAD	13,66%
33632	2.725.802 CAD	4,91%
<b>top 10 imports CA from HR</b>	<b>39.342.233 CAD</b>	<b>70,89%</b>
<b>imports CA from HR</b>	<b>55.491.411 CAD</b>	<b>100,00%</b>
<b>imports CA from world</b>	<b>51.208.412.745.800 CAD</b>	
<b>imports CA from HR versus world</b>		<b>0,000108%</b>
NAICS code	2015 imports in CAD	2015 imports in %
31142	1.872.994 CAD	3,49%
31522	2.004.041 CAD	3,73%
31621	2.205.614 CAD	4,11%
32541	10.380.665 CAD	19,34%
32731	3.042.326 CAD	5,67%
33131	5.082.271 CAD	9,47%
33351	1.750.094 CAD	3,26%
33531	6.986.152 CAD	13,02%
33632	3.057.910 CAD	5,70%
33721	1.913.510 CAD	3,57%
<b>top 10 imports CA from HR</b>	<b>38.295.577 CAD</b>	<b>71,36%</b>
<b>imports CA from HR</b>	<b>53.663.063 CAD</b>	<b>100,00%</b>
<b>imports CA from world</b>	<b>53.562.943.106.700 CAD</b>	
<b>imports CA from HR versus world</b>		<b>0,000100%</b>

	2011 imports	2012 imports	2013 imports	2014 imports	2015 imports
<b>top 10 imports CA from HR</b>	●	↗	↗	↘	↘
<b>imports CA from HR</b>	●	↗	↗	↘	↘
<b>imports CA from world</b>	●	↗	↗	↗	↗
<b>imports CA from HR versus world</b>	●	↗	↗	↘	↘

Source: Created by authors

Instead of examining each and every absolute and relative data, focus was put on the bigger picture. In that context, from the bottommost part of the table it can be concluded that both 2012 and 2013 were the years of upward trend in all 4 import indicators, while both 2014 and 2015 were the years of downward trend in 3 Croatia-related import indicators with upward trend in 1 import indicator that signifies worldwide Canadian imports. Primarily Croatian exporters should take this seriously.

With an aim of even deeper examination, authors have derived the ranks from all industries' imports values and the results are displayed in the table below. In that context, number 1 represents the rank for the industry with the largest import value in a given year and number 10 represents the rank for the industry with the smallest import value in a given year.

**Table 3** Ranks of top Canadian industries that imported to Canada from Croatia 2011-2015

NAICS code	Import rank 2011	Import rank 2012	Import rank 2013	Import rank 2014	Import rank 2015
31142	3	3	6	6	9
31522	4	10	10	-	7
31621	5	5	5	8	6
32541	-	4	2	1	1
32731	6	6	9	9	5
33131	1	2	4	3	3
33531	10	-	8	2	2

Source: Created by authors

It can be noticed from the table above that it does not include all the industries and all the ranks. It is mainly because authors have included only the ranks of top 10 industries that were in this group for 3 or more out of 5 observed years. Hence, only a total of 7 industries fulfilled both of those criteria, with 4 industries present in 5 years and 3 industries present in 4 years. Besides, those ranks can be used to observe the consistency and the positions of these industries and associated import streams.

#### 4. Significance of Croatia in Canadian exports

Regarding significance of Croatia in Canadian exports, authors have completely intentionally repeated both the analysis and the synthesis of data in 3 separate paragraphs along with their sorting order. Briefly, everything was done with the intention to create consistent and comparable pieces of text.

Once again, list in continuation was sorted in ascending order according to the all matching North American Industry Classification System (abbr. NAICS) codes. In this particular instance, basis consisting of top 10 Canadian industries that exported from Canada to Croatia 2011-2015 resulted with a list of 19 industries, once again because of its changes with every passing year.

**List 2** Top Canadian industries that exported from Canada to Croatia 2011-2015

11113 Dry Pea and Bean Farming; 11231 Chicken Egg Production; 21211 Coal Mining; 21221 Iron Ore Mining; 32311 Printing; 32519 Other Basic Organic Chemical Manufacturing; 32541 Pharmaceutical and Medicine Manufacturing; 32731 Cement Manufacturing; 33329 Other Industrial Machinery Manufacturing; 33361 Engine, Turbine and Power Transmission Equipment Manufacturing; 33399 All Other General-Purpose Machinery Manufacturing; 33422 Radio and Television Broadcasting and Wireless Communications Equipment Manufacturing; 33429 Other Communications Equipment Manufacturing; 33451 Navigational, Measuring, Medical and Control Instruments Manufacturing; 33531 Electrical Equipment Manufacturing; 33599 All Other Electrical Equipment and Component Manufacturing; 33641 Aerospace Product and Parts Manufacturing; 33651 Railroad Rolling Stock Manufacturing; 41511 New and Used Automobile and Light-Duty Truck Wholesaler-Distributors
--

Source: Created by authors

Though, in this case, 2 industries belong to Canadian Agriculture, forestry, fishing and hunting sector, additional 2 industries belong to Canadian Mining, quarrying, and oil and gas extraction sector, 14 industries belong to Canadian Manufacturing sector and last of all, only 1 industry belongs to Canadian Wholesale trade sector. Even with 1 industry less in top ones, such distribution of industries indicates that Canadian economy is much more heterogeneous. That is outstanding in the terms of Canadian exports, yet motive behind it is probably very well hidden in the ancient Chinese proverb “Don't put all your eggs in one basket.”. However, the majority of those industries evidently belong to Canadian Manufacturing sector what closely defines prevailing Canadian exports to Croatia.

Table below was created based on the absolute and the relative yearly exports values of variable top 10 Canadian industries that exported from Canada to Croatia 2011-2015.

**Table 4 Exports values of top Canadian industries that exported from Canada to Croatia 2011-2015**

<b>NAICS code</b>	<b>2011 exports in CAD</b>	<b>2011 exports in %</b>
11113	2.815.253 CAD	7,82%
11231	650.198 CAD	1,81%
32519	17.167.946 CAD	47,67%
32541	737.742 CAD	2,05%
33451	685.507 CAD	1,90%
33531	744.233 CAD	2,07%
33599	712.807 CAD	1,98%
33641	1.265.664 CAD	3,51%
33651	536.505 CAD	1,49%
41511	935.722 CAD	2,60%
<b>top 10 exports CA to HR</b>	<b>26.251.577 CAD</b>	<b>72,90%</b>
<b>exports CA to HR</b>	<b>36.014.636 CAD</b>	<b>100,00%</b>
<b>exports CA to world</b>	<b>44.668.813.036.800 CAD</b>	
<b>exports CA to HR versus world</b>		<b>0,000081%</b>
<b>NAICS code</b>	<b>2012 exports in CAD</b>	<b>2012 exports in %</b>
11113	2.437.100 CAD	14,29%
11231	693.201 CAD	4,06%
32541	675.777 CAD	3,96%
33329	655.879 CAD	3,85%
33422	758.940 CAD	4,45%
33429	525.919 CAD	3,08%
33451	763.547 CAD	4,48%
33531	2.061.469 CAD	12,09%
33641	1.434.821 CAD	8,41%
41511	615.224 CAD	3,61%
<b>top 10 exports CA to HR</b>	<b>10.621.877 CAD</b>	<b>62,28%</b>
<b>exports CA to HR</b>	<b>17.053.723 CAD</b>	<b>100,00%</b>
<b>exports CA to world</b>	<b>45.514.957.186.300 CAD</b>	
<b>exports CA to HR versus world</b>		<b>0,000037%</b>

NAICS code	2013 exports in CAD	2013 exports in %
11113	3,419,301 CAD	16,25%
11231	686,782 CAD	3,26%
32541	825,654 CAD	3,92%
33329	1,286,402 CAD	6,11%
33361	794,839 CAD	3,78%
33422	832,621 CAD	3,96%
33429	615,922 CAD	2,93%
33451	2,019,058 CAD	9,59%
33531	1,838,228 CAD	8,73%
33641	1,698,703 CAD	8,07%
<b>top 10 exports CA to HR</b>	14,017,510 CAD	66,60%
<b>exports CA to HR</b>	21,045,673 CAD	100,00%
<b>exports CA to world</b>	47,193,999,150,700 CAD	
<b>exports CA to HR versus world</b>		0,000045%
NAICS code	2014 exports in CAD	2014 exports in %
11113	2,767,172 CAD	12,18%
21211	3,534,447 CAD	15,56%
32311	662,877 CAD	2,92%
32519	900,653 CAD	3,96%
32541	733,545 CAD	3,23%
33399	1,345,834 CAD	5,92%
33422	720,942 CAD	3,17%
33429	643,782 CAD	2,83%
33451	2,163,449 CAD	9,52%
33641	2,055,326 CAD	9,05%
<b>top 10 exports CA to HR</b>	15,528,027 CAD	68,34%
<b>exports CA to HR</b>	22,717,564 CAD	100,00%
<b>exports CA to world</b>	52,501,940,455,300 CAD	
<b>exports CA to HR versus world</b>		0,000043%
NAICS code	2015 exports in CAD	2015 exports in %
11113	4,079,794 CAD	7,94%
21221	26,262,565 CAD	51,13%
32519	6,714,687 CAD	13,07%
32541	1,200,284 CAD	2,34%
32731	457,395 CAD	0,89%
33329	459,909 CAD	0,90%
33361	446,299 CAD	0,87%
33429	444,567 CAD	0,87%
33451	2,641,828 CAD	5,14%
33641	1,752,567 CAD	3,41%
<b>top 10 exports CA to HR</b>	44,459,895 CAD	86,56%
<b>exports CA to HR</b>	51,364,138 CAD	100,00%
<b>exports CA to world</b>	52,334,030,927,500 CAD	
<b>exports CA to HR versus world</b>		0,000098%

	2011 exports	2012 exports	2013 exports	2014 exports	2015 exports
<b>top 10 exports CA to HR</b>	●	↓	↗	↗	↗
<b>exports CA to HR</b>	●	↓	↗	↗	↗
<b>exports CA to world</b>	●	↗	↗	↗	↓
<b>exports CA to HR versus world</b>	●	↓	↗	↓	↗

Source: Created by authors

Once again, by focusing on the bigger picture and the bottommost part of the table it can be concluded that 2012 was the year of downward trend in 3 Croatia-related export indicators with upward trend in 1 indicator that signifies worldwide Canadian exports what indicates relatively less Canadian exports to Croatia in comparison with the world. Year 2013 had upward trend in all 4 export indicators. Yet, year 2014 had 3 export indicators with upward trend and 1 export indicator with downward trend that signifies relatively less exports to Croatia in comparison with the world. Finally, year 2015 had 3 export indicators with upward trend and 1 export indicator with downward trend that signifies relatively more exports to Croatia in comparison with the world.

By being consistent, authors have also derived the ranks from all industries' exports values with results being displayed in the table below. Consequently, in this case, ranks are related to export values.

*Table 5 Ranks of top Canadian industries that exported from Canada to Croatia 2011-2015*

NAICS code	Export rank 2011	Export rank 2012	Export rank 2013	Export rank 2014	Export rank 2015
11113	2	1	1	2	3
11231	9	6	9	-	-
32519	1	-	-	6	2
32541	6	7	7	7	6
33329	-	8	5	-	7
33422	-	5	6	8	-
33429	-	10	10	10	10
33451	8	4	2	3	4
33531	5	2	3	-	-
33641	3	3	4	4	5

*Source: Created by authors*

Again, an aim was to include top 10 industries that were in this group for 3 or more out of 5 observed years. Whereas, a total of 10 industries fulfilled both of those criteria, with 4 industries present in 5 years, 1 industry present in 4 years and 5 industries present in 3 years. Larger number of industries implies more consistent plus more competitive industries and associated export streams.

## 5. Future of significance of (eastern) Croatia in Canadian imports and exports

In the future Croatia and Canada have enough grounds to improve both their import relations and export relations so that significance of Croatia in Canadian imports and exports can notably increase. That especially applies to industries such as 32541 and 33531 that were present in both Croatian and Canadian list of top industries what means that there are grounds for bilateral complementary imports and exports in which both countries can achieve win-win solutions.

Additionally, with **imports CA from HR versus world** values between 0,000060% and 0,000200% as well as **exports CA to HR versus world** values between 0,000037% and 0,000081% there is definitely room for improvement. In that context, it is unrealistic to believe, to propose and to expect that Croatia and Canada will ever be(come) major import and export partners, but the constant increase of the percentages above should be special group task of those who have active interest in that.

In the near future i.e. approximately in year's time it can be confidently expected that Comprehensive Economic and Trade Agreement (abbr. CETA) between European Union and Canada will come into effect. Hopefully, that will help Croatia and Canada to kick-start more extensive relations and collaborations in both import domain and export domain.

Authors have come up with all those recommendations, because obviously soon enough one more special window of opportunity opens up for the entire Croatia, including eastern Croatia to finally do something to properly promote, stimulate and enforce Croatian industries in international circles.

The most convenient and definitely the most understandable approach for most people in this case would definitely be back to (international trade) basics with increased focus on industries that are related to Protected Designation of Origin (abbr. PDO), Protected Geographical Indication (abbr. PGI) as well as Traditional Specialities Guaranteed (abbr. TSG) and/or are at least fairly specialized.

## 6. Conclusion

On the whole, comparisons between Croatia and Canada by selected per capita data and average values have shown Canada's superiority. At the same time they have shown that Croatia should undeniably be on a lookout for possible opportunities because of Canada's ever growing needs.

On the subject of imports, research findings have evidently revealed that 7 out of 20 i.e. 35.00% of industries are consistently present in u top industries what implies that predominant industries that import to Canada from Croatia are fairly firmly defined. Additionally, top 10 imports 2011-2015 take up between 64,00% and 85,90% of total imports values what is a very significant portion.

Regarding export, related research findings have obviously shown that 10 out of 19 i.e. 52,63% of industries are consistently present in top industries what implies that predominant industries that export from Canada to Croatia are moderately firmly defined. Moreover, top 10 exports 2011-2015 take up between 62,28% and 86,56% of total imports values what is again a very significant portion.

Evidently, future of significance of Croatia in Canadian imports and exports will greatly depend on Comprehensive Economic and Trade Agreement (abbr. CETA) and on the way that it will be implemented in both countries. Hopefully, both countries will use it to maximize their strengths and minimize their weaknesses, mainly since this is the window of opportunity that should be used wisely.

In general, while top 10 industries is good indicator of former successful imports and exports, one must be acutely aware that there is actually a total of 922 industries that have potential for imports and exports to and from Croatia and Canada. So, future indicator of healthy and fair competition between industries would be significantly smaller and more balanced percentages that are taken up by top 10 industries. As a final point, future of Croatian in Canadian imports and exports is currently not categorically defined and at this moment in time there is still a chance that it will be officially, explicitly and strongly defined by widespread, abiding and genuine interests instead of by petty, passing and personal interests.

## REFERENCES

United Nations Statistics Division, Department of Economic and Social Affairs (2016): *UNdata*, <http://data.un.org/>, (accessed 13 March 2016)

Statistics Canada (2015): *North American Industry Classification System (NAICS) 2012*, <http://www.statcan.gc.ca/eng/subjects/standard/naics/2012/introduction>, (accessed 1 April 2016)

Government of Canada (2016): *Office of the Chief Economist*, <http://www.international.gc.ca/economist-economiste/index.aspx?lang=eng>, (accessed 10 March 2016)

European Commission (2016): *Geographical indications and traditional specialities*, [http://ec.europa.eu/agriculture/quality/schemes/index\\_en.htm](http://ec.europa.eu/agriculture/quality/schemes/index_en.htm), (accessed 14 April 2016)

**Professor Zdravko Zekić, Phd.**

University of Rijeka, Faculty of Economics  
51000 Rijeka, Ivana Filipovića 4  
PHONE: +385 (0)51 355 160 FAX: +385 (0)51 355 111  
EMAIL: zzekic@efri.hr

**Luka Samaržija, Phd.**

University of Rijeka, Faculty of Economics  
51000 Rijeka, Ivana Filipovića 4  
PHONE: +385 (0)51 355 160 FAX: +385 (0)51 355 111  
EMAIL: luka.samarzija@efri.hr

**Iva Šunjić, student**

University of Rijeka, Faculty of Economics  
51000 Rijeka, Ivana Filipovića 4  
PHONE: +385 (0)51 355 160 FAX: +385 (0)51 355 111  
EMAIL: iva.sunjic1992@gmail.com

**SCM- THE CONCEPT OF CREATING ADDED VALUE IN CROATIA'S  
FASHION INDUSTRY**

**MOL - KONCEPT KREIRANJA DODANE VRIJEDNOSTI U MODNOJ  
INDUSTRIJI REPUBLIKE HRVATSKE**

**ABSTRACT**

*The fashion industry today is an important economic sector in a significant number of the developed countries (Italy, France, the United States and the United Kingdom). Its impact on the national economy is primarily reflected in the large number of people it employs, and the export shares. The fashion industry involves systematic creativity and innovation, and integrates different types of knowledge that can contribute to creating high added value of the final product. For a full understanding of the economic benefits that are realized in the fashion industry it is necessary to analyze its supply chain. The supply chain has, for the purpose of this paper, been broken down into its key links providing the necessary level of insight into the overall functioning of the system. Supply Chain Management can be defined as a contemporary concept of managing strategic alliances that captures the nature of interactions between businesses (chain links), as well as the advantages which businesses that enter into a strategic alliance can achieve. In this paper we propose the concept of active cooperation between companies from developed and developing countries to enable the companies of the developing countries, including Croatian companies, to become an integral part of the global supply chains. For companies from a less developed country, not being a part of the global supply chains means the inability to acquire tacit knowledge through spillover that is necessary to create a market-friendly product and to develop management system standards. The purpose of this paper, therefore, is to examine the different modalities for the integration of Croatian companies into the global supply chains of the fashion & textiles industry. Considering its geographical situation, culture, and the level of information technology development, joining to a business or industry cluster is proposed as one of the most promising models.*

**Keywords:** Fashion Industry, Supply Chain Management, Knowledge Spillovers, Clusters

## SAŽETAK

*Modna industrija danas je važna gospodarska grana u značajnom broju razvijenih država (Italija, Sjedinjene Američke Države, Francuska, Velika Britanija...), a njezin utjecaj na nacionalne ekonomije očituje se prvenstveno u velikom broju stanovništva koje zapošljava, i izvozu. Kako modna industrija podrazumijeva sustavnu kreativnost i inovativnost, u njoj su integrirana različita znanja koja pridonose visokoj dodatnoj vrijednosti koja je sadržana u finalnom proizvodu. Za potpuno razumijevanje ekonomskih koristi koje se ostvaruju u modnoj industriji potrebno je analizirati njezin opskrbeni lanac, koji je za potrebe ovoga rada rasčlanjen na ključne karike kako bi se stekao uvid u cjelokupno funkcioniranje sustava. Menadžment opskrbnog lanca predstavlja suvremeni koncept upravljanja strateškim savezima, koji opisuje prirodu međusobne interakcije pojedinačnih odnosa između poduzeća (karika lanca), kao i prednosti koja poduzeća ostvaruju stupanjem u strateški savez. Za poduzeća iz država u razvoju, među kojima su i hrvatska poduzeća, predlaže se aktivna kooperacija sa poslovnim sustavima iz razvijenih država kako bi postala djelom globalnih opskrbenih lanaca. Izoliranost, odnosno neprisustvo u globalnim opskrbnim lancima za poduzeća iz nerazvijenih država obično znači nemogućnost prelijevanja tacitnog znanja koje je neophodno za kreiranje tržišno prihvatljivog proizvoda i razvoja sustava upravljanja. Upravo stoga cilj ovoga rada je istražiti modalitete za integraciju poduzeća iz Hrvatske u globalne opskrbeno lance u modnoj tekstilnoj industriji. Kao jedan od najperspektivnijih modela, zbog svojeg geografskog položaja, kulture i informatičke obučenosti, predlaže se udruživanje u poslovne klustere.*

**Ključne riječi:** *modna industrija, menadžment opskrbnog lanca, prelijevanje znanja, klusteri*

### 1. Introduction

Creative industries which involve converting intellectual labour or capital into commercial products today are considered one of the most important economic activities in developed countries. Creative industries have been recognized as an important source of competitive advantage of the developed countries compared to less developed countries. The fashion industry is an important branch of creative industries in developed countries, primarily due to the fact that it significantly contributes by generating high value added, export growth and employment. For a full understanding of the economic benefits that are realized in the fashion industry both directly and indirectly it is necessary to analyze its supply chain, in other words, to identify all entities which are contributing in different ways and to varying degrees to creating added value. A detailed analysis showed that the bulk of the value added derives from intellectual activities of entities interlinked in the supply chain, which are primarily located in the developed countries, while the rest of the value added is generated by entities from the less developed countries that perform manual labour. Such power constellation means both threat and opportunity for Croatian companies doing business in the fashion industry. Bearing in mind the specifics of global supply chains it is necessary to clearly define business strategy in order to maximize the benefits of entities interlinked in the supply chain and ultimately the national economy. Considering its geographic location, proximity to fashion centres (Milan, Paris, London, fashion clusters in Italy) and education of the workforce, the conclusion is that Croatian fashion businesses might participate in global supply chains not only through direct production of standardized products but also through intellectual activities that contribute most to creating high value added products. Globally speaking, as Croatia has no significant fashion centre, or a fashion brand or designer it is proposed, initially, that companies from Croatia become an integral part of existing global supply chains. In practice, this would mean that Croatian companies become part of a global business system that tends to create and / or may have impact on contemporary fashion trends. A lack of quality technological equipment and a lack of knowledge to manage complex supply chains suggest that companies from Croatia must participate actively in



some of the Italian fashion clusters, aimed at acquiring tacit knowledge through spillover on which it will be possible to make significant progress in today's Croatian fashion industry.

## **2. Fashion industry as a branch of creative economy**

From an economic point of view, creativity can be defined as "an idea or action that is new or significant" (Csikszentmihalyi, 1996, 23) or as a "formulation of new ideas that can be applied to produce an original product, functional creation, scientific or technological innovation" (UNCTAD 2010, 3). Creative industries can be seen as a holistic concept with complex interactions between different industries where boundaries are increasingly disappearing.

A huge potential for development of creative industries and businesses lies in the fact that they do not rely on production factors with diminishing returns such as manual labour and natural resources, but on the factors that have good growth potential such as information, technology, finance, creativity and talent of the people etc. Boundaries between creative industries and other sorts of industry begin to disappear due to the fact that technological progress enables development of ever-growing range of products and services, and creativity is becoming more prominent content of production processes of most traditional industries and their products and services. As the fashion industry creates and imposes trends, it can be said that its components – textile, clothing and footwear industries depend on the standards and designs that are the result of employees' thought processes.

The fashion industry is especially important in Europe, having in mind that London, Paris and Milan are world's fashion capitals, which means that a large number of entities have been concentrated around these centres. According to the final report issued by Economix (Vogler-Ludwig & Valente, 2009, 36) the fashion industry of the European Union consisted of 266,000 enterprises that generated € 67.8 billion of value added (47% in the textile sector, 35% in the clothing, and 18% in the leather and footwear industries). There was a total of 3.4 million employees in the fashion industry (46% in the clothing sector, 36% in textiles and 18% in the leather and footwear industries).

Besides competing against low-cost countries, recently the European textile and clothing industry have been facing problems of uncertain market conditions, short product life, high market volatility, high impulsive buying behaviour, impossibility of predicting consumer preferences and all the more selective and more informed buyers who know price-quality ratio of each product. Seeking to solve problems with development, during the last 15 years the fashion industry has been going through an intense process of modernization and organizational restructuring (Anić et al, 2008, 38). Modernization is primarily reflected in rapid replacement of worn-out production facilities and equipment by new ones, allowing shortened product life cycles, higher productivity, boosting the impact of new technology (e-Commerce) and greater efficiency to better meet end user needs. Organizational restructuring resulted in liquidating inefficient enterprises, establishing new forms of business systems (strategic alliances), or building stable supply chains that tend to stretch across several continents.

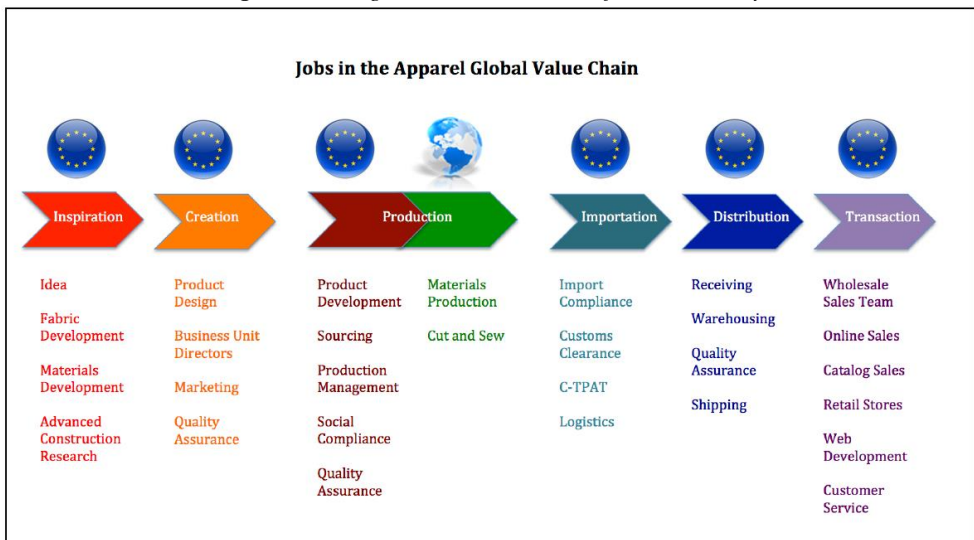
## **3. Supply chain management in the fashion industry**

The fashion industry requires a systematically designed supply chain that interlinks its structural entities from the origin of the supply chain (suppliers of materials) to its end (retailers and buyers). Although the literature cited textile, fashion and clothing industry as separate terms or separate industries, for the purpose of this research the fashion industry will include textile, clothing and footwear industry due to their high interconnection and interdependence. The fashion industry is very complex, because it has a structure of multiple interconnected entities, usually from different

countries - producers, wholesalers, retailers, design companies including specialized professions such as fashion designers, marketing managers, computer programmers, PR agents, freight forwarders, project managers etc. An effective integration of such a large number of entities into a single system whose goal is joint production and distribution of products requires implementation of supply chain management. Supply Chain Management can be defined as a concept of integrating all business functions, practices, processes and activities into a single system of flows of materials, information and finances within a strategic alliance, aimed at enhancing business indicators of associate members and the entire business system (Samaržija, 2014, 44).

Today's modern business, especially one that takes place over several continents, is unthinkable without the use of supply chain management, and its planning and organisation is paid special attention by top management. Figure 1 shows a typical supply chain in the fashion industry, which consists of at least six entities.

*Figure 1 Adding value chain in the EU fashion industry*



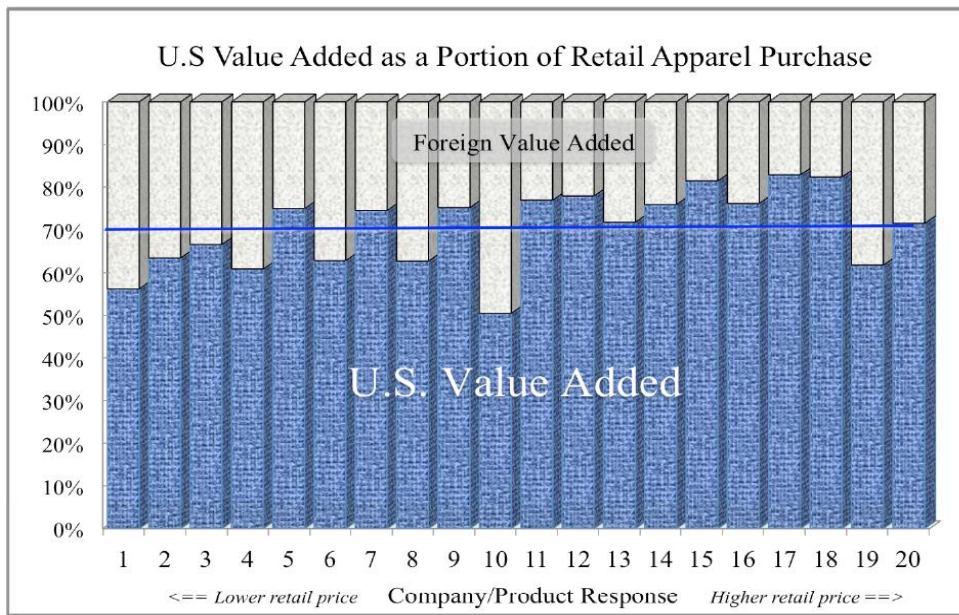
*Source: Author*

Before building a supply chain it is necessary to carry out strategic planning in order to formulate the value adding support strategies and select entities needed to implement and realize strategic objectives. This strategy involves the expansion of the concept of integrated planning beyond the company boundaries, including operational planning in selling and buying activities (Zekić, 2000, 99). Strategic planning defines goals of all involved entities and overall objectives of the strategic alliance, predicts future needs of customers, organizes entities within the supply chain and determines locations among which is carried out a process of transforming raw materials and intermediate products into final products by their position in space and time, and distribution channels to end users. When creating a supply chain, special attention should be given to identifying processes that occur within the supply chain and add value. The entire supply chain should be considered as a series of sequential processes whose primary objective is to maximize customers' satisfaction at the lowest possible cost. To maximize customer value, a supply chain must consist of entities that can provide maximum value (effectiveness) with the lowest possible cost (efficiency). In the last three decades we are witnessing an unequal distribution of the value added between developed countries and developing countries. While businesses from the developed countries focus on maximizing effectiveness, companies from the low-cost developing countries are used to minimize costs.

As already mentioned, a fashion industry supply chain may consist of at least six links, each of which adds value to the final product. The first two stages are crucial; being the result of the thought processes and creations of the human mind, these add most value to the market value of the product. Inspiration and creativity are the result of the work of designers and creators from the developed countries, while physical work is left to low cost manual labour countries. A study conducted jointly by OECD and WTO, which analyses value added in retail trade for 20 best-selling items in the U.S. fashion industry gives us a better insight into a disproportionate distribution of earned value. The analysis shows that on average 70.3% of product value is generated in the U.S. territories and the rest is realized from the third world countries.

This problem dates back to the mid-seventies when the global apparel sector fell into crisis. The leading companies decided to migrate manufacturing operations to low-cost areas. The U.S. companies transferred production to Central America, French companies sent their manufacturing to North Africa, Germany to eastern European countries, and Italy increased efficiency through a process of decentralisation.

*Chart 1 U.S. value added as a portion of retail apparel purchase*



Source: Hester, B. S.: *Analyzing the value Chain for Apparel Designed in the US and manufactured overseas*, 2011

A comparative analysis of proportions of the United States and Third World countries in global value added trade reveals a non-proportional structure. A smaller portion of the newly added value (up to 30%) is generated in the countries of the Third World, and involves material inputs such as fibers, yarns, fabrics and finishes. On the other hand, the biggest portion of the newly added value is generated in the United States deriving from inspiration, design, product development, logistics, product testing and certification, quality control, and compliance with environmental and safety requirements. Under the present circumstances of globalization, the fashion industry has been marked by exploitation of workers in the eastern countries for the benefit of western companies. Although the fashion industry is largely automated, workers are still essential in the apparel

industry (Entwistle, 2000, 213). This is also important in view of strategic orientation of Croatian companies operating in the fashion industry.

#### 4. Fashion industry in Croatia

The problematical nature of the history of Croatian fashion industry became apparent in the early 90's of the 20th century, after disintegration of the former Yugoslavia and the loss of markets with more than 22 million of consumers, protected by protectionist policies. In a centrally planned socialist economy, rather than a market economy, local enterprises were isolated and stayed behind from international competition. At the same time, the opening up of Central and Eastern Europe with lower labour costs was the factor that encouraged migration of manufacturing operations to Poland, Czech Republic, Hungary and Romania, which resulted in a decrease in employment and an increase in imports.

**Table 1** Number and structure of employees in the fashion industry from 2011 to 2013 (in '000)

<b>Manufacturing</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>
Textile	4,4	4,1	4,1
Clothing	17,0	15,6	14,0
Leather and related products	9,1	8,8	8,6
The fashion industry overall	30,5	28,5	26,7

Source: Monthly Statistical Report 2012 and 2013 (www.dzs.hr as of 15.07.2013)

Table 1 shows how production of textile, clothing and leather follows trends in the overall fashion industry, which is reflected in a constant decrease in the number of employees in the observed three-year period.

**Table 2** Number of businesses by sector, 2012

<b>Manufacturing</b>	<b>Small-sized</b>	<b>Mid-sized</b>	<b>Large-sized</b>	<b>Total</b>
Textile	211	10	0	221
Clothing	483	20	5	508
Leather and related products	122	7	1	130
The fashion industry overall	816	37	6	859

Source: Croatian Chamber of Economy, 2013

In 2012 (a representative year), the small business dominated, while the number of large-sized businesses was negligible. Such business structure imposed need to redefine business strategies of the entire fashion industry. Given the current global trends it is realistic to expect further decrease in industry value, number of businesses, number of employee etc.

**Table 3** Imports in the textiles, clothing and leather industries and linear trend projection (by 2015, in '000)

<b>Year</b>	<b>Fashion industry imports</b>	<b>Linear trend</b>	<b>Fashion industry exports</b>	<b>Linear trend</b>
2008	8.534.493	8.052.101,7	5.319.939	4.998.006,9
2009	7.491.815	7.891.365,9	4.735.159	5.095.355,8
2010	7.082.558	7.790.630,1	4.950.302	5.192.704,7
2011	8.135.126	7.569.894,3	5.571.721	5.290.053,6
2012	Forecast	7.248.422,7	Forecast	5.484.751,4
2013	Forecast	7.087.686,9	Forecast	5.582.100,3
2014	Forecast	6.926.951,1	Forecast	5.679.449,2

Source: Bureau of Statistics, 2013

According to data in Table 3 for the period 2008-2011, including market forecast for the period 2012-2014, imports are higher than exports, indicating a structural disorder that ultimately can lead to phasing out domestic production. The fact that domestic entities are oriented on whole production from raw material to final products is one cause of a negative import to export ratio. In other words, Croatian businesses should make the most of the advantages offered through joining global supply chains (specialization and innovation), which in the long run could ensure the existence and development of the fashion industry.

Indicators of adverse macroeconomic effects may be the result of the following problems: fragmentation and weak negotiating ability; insufficient investment in development and marketing, lagging behind in technical innovations, research and education; and a lack of a stimulating environment that would motivate entrepreneurs and companies to increase the level of competitiveness; a lack of involvement in global supply chains, low development of own brands; inefficient distribution; insufficient knowledge of developments on the world market; a lack of a major fashion centre (Teodorović et al., 2007, 16).

## **5. Cluster as a model of supply chain management for the development of Croatian fashion industry**

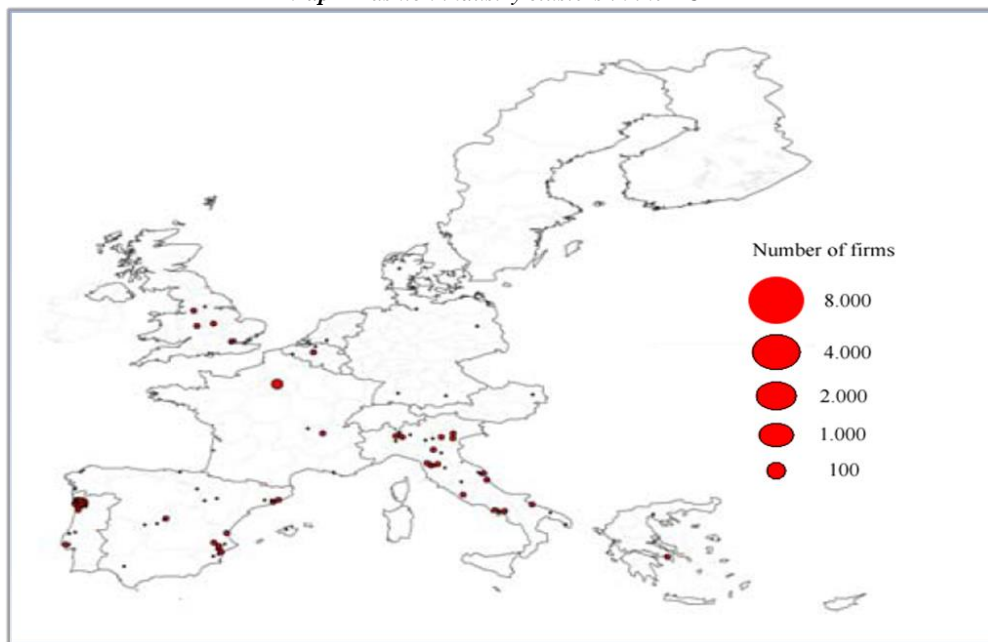
The following measures have been proposed as a solution to the existing problems of development: focusing on more qualitative adjustments to dynamic market, technological and technical and organizational changes; manufacturing high added value products, merging design, textile and clothing companies, integration in global supply chains, encouraging structural changes and the development of innovative products and processes; pursuing continuous improvement in technology, specialization and market-competitive production; focusing on manufacturing own products (own brands); intensifying marketing activities; improving logistics; staff reductions as a reflection of a significant raise of productivity and the establishment of cluster partnerships.

Although being a country with a significantly larger internal market as compared to Croatia, at the beginning of 2000 the U.K. was facing similar issues as Croatia during the last 10 years. It has been concluded that the main problems of the textile and clothing industry in the U.K. were common - a drop in productivity and decrease in employment (Jones & Hayes, 2004, 263). The cause of low productivity and decline in employment was the result of the fact that 73% of clothing was imported from low-cost countries such as Turkey, Sri Lanka and Romania. Seeking to be effective in reversing the negative trends a cluster of textile and clothing industry was formed.

A similar solution is proposed for Croatia, noting that, in the beginning, it is not suggested to establish a new cluster that would encompass companies from Croatia, but the companies from Croatia should integrate in some of the already existing clusters in the European Union. The benefits of joining an operational cluster are many: easier transfer of technology and knowledge, sales by already established sales channels, a higher degree of novelty in innovation and narrow specialization as a precondition for creating added value. Cluster, as a model of inter-organizational network has already been recognized in Europe's fashion industry as a system that can contribute to creating added value, ultimately leading to strengthening the competitiveness of member states and the whole business system.

Map 1 shows fashion industry clusters in the European Union. The map reveals that most clusters are located in the Mediterranean, primarily in Italy, with a smaller number of clusters in Spain and Portugal. Also, large-sized clusters that bring together over 1,000 members are located close to major fashion centres. Even 11 major clusters are located in Paris and London, 5 clusters are situated in Madrid and Stockholm, Berlin, Brussels, Lisbon and Munich have 3, while Barcelona, Helsinki and Milan have 2 large-sized clusters. Precisely proximity to Italy represents a great opportunity for Croatian companies.

*Map 1 Fashion industry clusters in the EU*



*Source: Boix, R. et al.: Creative clusters in Europe: a microdata approach, Creative clusters in Europe: a microdata approach, 2011*

Analyzing the geographical position of Croatia, a lack of quality technological equipment of domestic enterprises, insufficient innovation, inability to impose trends on world markets, a lack of major domestic fashion centres, joining some of Italy's clusters is imposed as the best solution for local companies. In fact, Italy, bordering Croatia, is traditionally considered the world-wide leader in fashion and in the long run Croatian companies can benefit a lot from joining a large, well-established system, ultimately being of benefit to the entire economy.

A Croatian company should become part of a fashion industry cluster in a gradual way through value-adding activities such as online and catalogue sales, development of materials, production logistics, marketing, quality assurance and product design. Although the bulk of the value added in the supply chain is generated in the early stages of creation and design of products, there is also a great potential in other stages of the supply chain that are important for the efficient functioning of the overall system. Thus, in addition to production activities, businesses providing other types of services and products can join the supply chain to contribute to successful operation of the entire fashion manufacturing process such as logistics, IT, marketing and certification. Enterprise networking today has no alternative, especially if you take into account weak competitiveness of Croatian companies in the fashion industry. Clustering is a model of organizational interlinking of multiple companies, and in recent market conditions is perhaps the only way of survival of the Croatian fashion industry.

Becoming an integral part of a fashion industry supply chain is not an easy task and requires support of government institutions that must recognize the potential that lies in organizational networking (clusters). A National Strategy for the fashion industry should not only focus on stimulating production, but on supporting those activities through which we can achieve the transfer of knowledge and technology from technologically developed countries. That's why it takes a holistic

review of the supply chain management concept as well as the advantages to be gained by its implementation in the fashion industry of Croatia.

## 6. Conclusion

The fashion industry is becoming very important in an increasing number of national economies as it brings many benefits which are manifested through increases in employment, production and exports. Although the fashion industry is important both in developed countries and developing countries, it has different effects on national economies. In the underdeveloped countries and the developing countries it is mainly a tool that is used for employing a large number of low-wage labour force doing manual work. In the developed countries, the fashion industry is also an important generator of employment opportunities, although it does not imply manual labour, but is related to a series of activities designed to enhance the craftsmanship of the product and add value for the benefit of end consumer. As the fashion industry requires interaction of multiple entities that are even located on different continents, this suggests implementation of supply chain management to efficiently integrate specific work into a single system or global supply chains. Today's global supply chains in the fashion industry involve value-adding activities performed in the developed countries, and low value-added activities performed in the developing countries. Such constellation of power is not in favour of Croatia. Namely, after renouncing protectionism in the 90s Croatia fell into a series of structural problems that are still manifested in declining employment, increased imports and reduced number of businesses in the fashion industry. Taking the long view, Croatian companies need to become specialized and involved in various stages of global supply chain processes such as logistics, information technology, design or quality, which are essential for the functioning of the whole system. Entering the world fashion market is not easy, especially having in mind that global supply chains have been well-established and operational for many years, consisting of businesses that have developed to a higher technological level as compared to Croatia. This suggests that Croatian companies should join some of the Italian clusters. In fact, Italy is a country with several large-sized clusters in the fashion industry, with Milan as a world-known international fashion centre, and several major business systems that operate successfully on a global basis. Due to close proximity to Italy and similar business practices it feels justified in assuming that Croatian companies could become active participants in Italy's fashion industry clusters, which are potential sources of knowledge needed for future more systematic development of Croatian fashion industry.

## REFERENCES

- Anić et al. (2008): *Ekonomski aspekti razvika industrije tekstila i odjeće u Republici Hrvatskoj*, Zagreb: Ekonomski Institut Zagreb, Hrvatsko društvo ekonomista)
- Boix, R. et al. (2011): *Creative clusters in Europe: a microdata approach, Creative clusters in Europe: a microdata approach*, Routledge, London
- Csikszentmihalyi, M. (1996): *Creativity: Flow and the psychology of discovery and invention*. New York: Harper/Collins
- DZS (2013): *Statistički ljetopis 2010*, Državni zavod za statistiku, www.dzs.hr
- Entwistle, J., (2000): *The Fashioned Body: Fashion, Dress and Modern Social Theory*, Cambridge: Polity

Hester, B. S. (2011): *Analyzing the value Chain for Apparel Designed in the US and manufactured overseas*, Seattle

HGK (2010): *Proizvodnja tekstila i odjeće*, Hrvatska gospodarska komora, Zagreb,

Jones, R. M., & Hayes, S. G. (2004): *The UK clothing industry: Extinction or evolution?* Journal of Fashion Marketing and Management, 8(3),

Samaržija, L., (2014): *Optimizacija drvnih klastera primjenom koncepta menadžmenta opskrbnog lanca*, doktorska disertacija, Rijeka

Teodorović, et al (2007): *Usporedba punog i doradnog posla u industriji tekstila i odjeće u Hrvatskoj*, Ekonomski pregled, Hrvatsko društvo ekonomista

UNCTAD, (2010): *Creative Economy Report: A Feasible Development Option*

Vogler-Ludwig, K., Valente, A. C., (2009.): *Skills scenarios for the textiles, wearing apparel and leather products sector in the European Union*, Final Report, Economix, Muenchen.

Zekić, Z. (2000): *Logistički menadžment*, Glosa, Rijeka.





**Ljudski kapital  
u funkciji  
društveno-ekonomskog  
razvoja regije**

**Human  
capital in a function  
of the socio-economic  
development of the  
region**

**Andrea Arbula Blecich, PhD**  
Faculty of economics, Rijeka  
Postal address: Ivana Filipovića 4, 51000 Rijeka  
Phone: 00385 51 355 117  
E-mail address: aarbula@efri.hr

## **THEORETICAL FRAMEWORK FOR EVALUATING THE EFFECTIVENESS OF HIGHER EDUCATION INSTITUTIONS<sup>1</sup>**

### **TEORIJSKI OKVIR ZA VREDNOVANJE EFEKTIVNOSTI VISOKOOBRAZOVNIH INSTITUCIJA**

#### **ABSTRACT**

*In order to achieve quality and continuous progress of higher education institutions, it is necessary to develop qualitative evaluation systems. In this paper a theoretical framework for evaluating the effectiveness of higher education institutions is presented. The effectiveness of an institution is the process of determining how successfully the institution is in achieving its mission. To achieve a higher level of effectiveness, it is important to properly define the mission and the outcomes. If the concept of institutional effectiveness is applied on higher education institutions, it is important to decide what is important, to define the outcomes, to monitor them and to use the results to achieve a more effective activity.*

*This paper presents a proposal for defining the goals of higher education which must serve for the achievement of social and economic progress. In addition to that, a process, comprising 7 stages, is proposed for defining and evaluating the outcomes with the aim of achieving more effective operation of higher education institutions.*

**Key words:** *effectiveness, higher education institutions, evaluation*

#### **SAŽETAK**

*Za postizanje zadovoljavajuće razine kvalitete i kontinuiranog napretka visokoobrazovnih institucija potrebno je razvijati kvalitativne sustave evaluacije. U ovom radu predstavljen je teorijski okvir za vrednovanje efektivnosti visokoobrazovnih institucija. Efektivnost institucije predstavlja proces kojim institucija definira koliko uspješno je ostvarila zadanu misiju. Pritom je ispravno definiranje misije kao i samih ishoda koje je potrebno ostvariti ključno za ostvarivanje više razine efektivnosti. Ukoliko se koncept institucionalne efektivnosti primijeni na primjeru visokoobrazovnih institucija, važno je prije svega utvrditi što je bitno, definirati ishode, pratiti ih i koristiti rezultate za ostvarivanje efektivnijeg poslovanja*

*U radu je prezentiran prijedlog definiranja ciljeva visokog obrazovanja koji moraju služiti postizanju društvenog i ekonomskog napretka. Pored navedenog, predložen je i proces definiranja i vrednovanja ishoda sa svrhom ostvarivanja efektivnijeg poslovanja visokoobrazovnih institucija postavljen u 7 faza.*

**Ključne riječi:** *efektivnost, visokoobrazovne institucije, evaluacija*

---

<sup>1</sup> This work has been supported in part by the University of Rijeka under the project number 13.02.1.2.09. and in part by the Croatian Science Foundation under the project 6558 Business and Personal Insolvency – the Ways to Overcome Excessive Indebtedness.

## **1. Introduction**

The quality of higher education has become one of the main areas of interest in Croatia and in the world. Although the quality of higher education has received great attention recently, there is still significant lack of research on this topic in Croatia. Quality is determined through the realization of its two fundamental factors: efficiency and effectiveness. In this paper, a theoretical framework for evaluation of HEIs effectiveness is presented. Thereby, the term HEI effectiveness refers to the process that institutions use in order to measure their performance according to the stated mission, vision and objectives. The purpose of effectiveness evaluation is its improvement at the institution ([www.enotes.com](http://www.enotes.com)). It is assumed that its application may consequently lead to the improvement of quality in higher education.

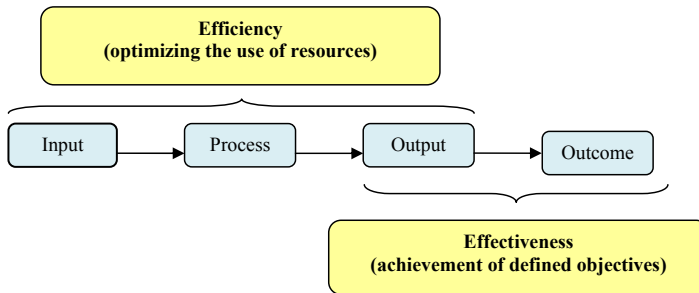
In order to achieve the required quality, HEIs must choose properly their goals. A proper choice of goals is such that its implementation ensures sustainable business. In this paper, the goals of higher education are set hierarchically in the way that lower level goals are subordinate to higher level goals. The most important goal, which is superior to all other goals, is the development of society.

The proposed process, with 7 interconnected stages, defines and evaluates the outcomes of HEIs with the aim of achieving a more effective activity. In achieving effective business, the starting point is the mission, vision and the strategy of HEIs. The most important role in the implementation of the proposed framework would have the committee for quality insurance and the HEIs management. Their work, among other things, should be directed to the establishment of the process for ensuring effective operation in HEIs.

## **2. Effectiveness in higher education**

To define effectiveness in the most accurate way, it is important to emphasize its difference from the term efficiency. These two terms are frequently not distinguished and used as synonyms. Efficiency management has key role in the public sector as it enables efficient and rational allocation of public resources (human, financial, technical and other that public institutions use in order to achieve its mission and goals) and their transparent use. Effectiveness, on the other hand, is achieved in a way that the evaluation respects long-term strategic objectives of a particular entity which ensures its sustainability. This measure is therefore often considered to be more relevant in the public sector management. It represents the ability to achieve the goals as it puts business of each entity in the relationship with its plans and mission. Nevertheless, it is important to emphasize that these two measures (efficiency and effectiveness), even though they have different meanings, are mutually complement. Efficiency is a short term measure, while the effectiveness is a measure focused on the long-term performance of the company or institution. A necessary precondition for achieving effectiveness is the efficient operation from period to period. On the other hand, an efficient business operation is only the one focused towards achieving long-term goals.

*Scheme 1 The relationship between efficiency and effectiveness*



Source: Authors

The efficiency is also defined with the phrase "doing things right," while effectiveness with "doing the right things". Successful organizations are only those that are both efficient and effective (Drucker, P., 2006). This is shown in the following table.

*Table 1 The matrix of efficiency and effectiveness*

		EFFICIENCY	
		LOW	HIGH
EFFECTIVENESS	HIGH	The right things are done in the wrong way	The right things are done in the right way
	LOW	Wrong things are done in the wrong way	Wrong things are done in the right way

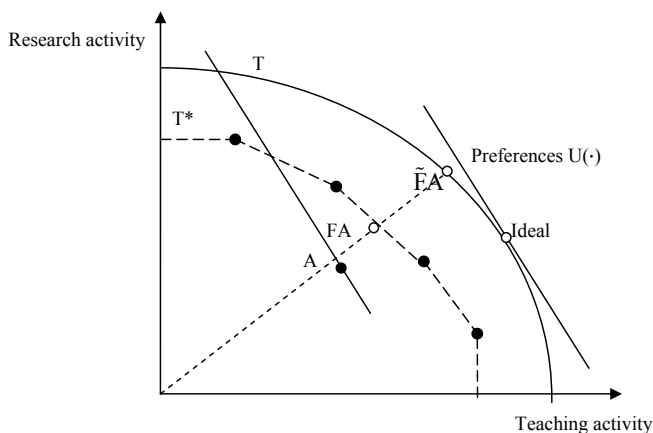
Source: Drucker, P. (2006)

The only correct option that allows sustainable business in the short and in the long run is one that has high efficiency and high effectiveness. This means "doing the right things in the right way."

In recent research a lot of emphasis is placed on efficiency as a measure of comparison between different business entities rather than on effectiveness. The reason for this is the lack of knowledge about the preferences of the subject. Lack of information about the relationship between inputs and outputs is replaced by assumptions about them. The efficiency of individual subjects is positioned in relation to the business efficient frontier (Bogetoft, Otto, 2011).

The following chart shows that the effectiveness frontier T is set to a higher level than the efficiency frontier T\*. Effectiveness frontier represents complete satisfaction of the preferences U in achieving ideal business. Since the preferences U are commonly not completely clear, the efficiency frontier is frequently used as a relevant measure of comparison between entities. The reason for this is the approach to the problem from the point of actual realization where the frontier is formed based on known data about best practices. However, despite limitations, achieving effective operation is key for achieving sustainable business.

**Graph 1** The relationship between efficiency and effectiveness in the case of higher education



Source: Author according to: Bogetoft, Otto (2011)

The effectiveness can be mathematically expressed as follows (Bogetoft, Otto, 2011):

$$Effectiveness = \frac{U(A)}{\max_{y \in T} U(y)} = \frac{U(A)}{(Ideal)} \quad (2.1)$$

The question is how much is possible to expand  $A$  in proportion to the production of a combination  $T$ . This gives the projection of the point  $A$  in the point  $\tilde{F}A$  where  $\tilde{F}$  represents the absolute output (Bogetoft, Otto, 2011):

$$\tilde{F} = \max \{f \mid f A \in T\} \quad (2.2)$$

Since in the real environment  $T$  is not known,  $T^*$  is assumed. Now, the so-called relative efficiency frontier is created as the entities are positioned relative to each other. Accordingly, point  $A$  is projected on point  $FA$ , where  $F$  represents the relative output efficiency (Bogetoft, Otto, 2011):

$$\tilde{F} = \max \{f \mid f A \in T^*\} \quad (2.3)$$

In higher education, improving the effectiveness refers to the introduction of measures which would optimize the use of resources to meet the defined objectives.

Thereby, the starting point is to satisfy the interests of all stakeholders (e.g. students, parents, the country, evaluation agency, etc.). When defining the objectives, the starting point should be the mission, vision and strategy of the organization observed.

The goal of each higher education institution should be the achievement of its long-term objectives with minimal, targeted and planned resources (personnel, financial, tangible and intangible assets). Long term goals can be improvement of the quality of teaching, achievement of scientific recognition of

institutions through publishing in top publications, establishing cooperation of the business community through joint projects implementation, etc. Due to the complexity of HEIs, it is necessary to evaluate not only their efficiency, but also the effectiveness. In this way it would be possible to get a complete picture of the activity of individual institution. In the process of evaluation it is necessary to collect the relevant data and information that best reflects the effectiveness of an individual institution.

Research evaluation of higher education in Croatia is usually focused on the construction of indicators for HEIs performance. One of the earliest studies about evaluation of higher education in Croatia is that of Jakir - Bajo (2003). The author explained the reasons for the evaluation of performance in the public sector and suggested a performance measurement framework. The performance of higher education institutions in the Republic of Croatia was analysed by Ćukušić, Garača and Jadrić (2014) and Budimir (2006). They aimed to establish guidelines and performance indicators for higher education. Based on the research carried out in 2006, Vašiček and Budimir Letinić (2007) suggested the measures of quality in the provision of public services by taking an emphasis on the higher education. Budimir (2010) studied the performance measurement of budget users. The results showed that, although there is awareness about the importance of measuring and presenting this information to the public, the system is underdeveloped. Ćukušić (2011) has determined the key factors that affect a successful business. Based on this, a model of process organization for higher education institutions was developed in order to optimize their performance. The framework for development and implementation of performance indicators was defined by Dražić Lutlisky and Broz Tominac (2013) on the example of the University of Zagreb and its components. They proposed the implementation of the BSC model and presented measures and indicators, which application could improve the efficiency and effectiveness of the University of Zagreb and its components. Ivković (2009) also proposed basic factors of quality assurance in higher education. Cerović and Arbula (2012) and Cerović, Arbula Blecich and Štambuk (2014) proposed a model for evaluating the quality of economic faculties in the way that they defined areas of evaluation quality and scientifically confirmed their relative importance. The aim of this paper is to fill the research gap on this topic as well as to raise the awareness on this problem.

Empirical evaluation of effectiveness in higher education is difficult to carry out due to the lack of common, universal criteria. Each organization has to set its own goals and monitor their realization. In order to provide common guidelines for implementation of the procedure of effectiveness evaluation, the next chapter presents the proposal of a theoretical framework for evaluating the effectiveness of higher education institutions in the Republic of Croatia.

### **3. Theoretical model**

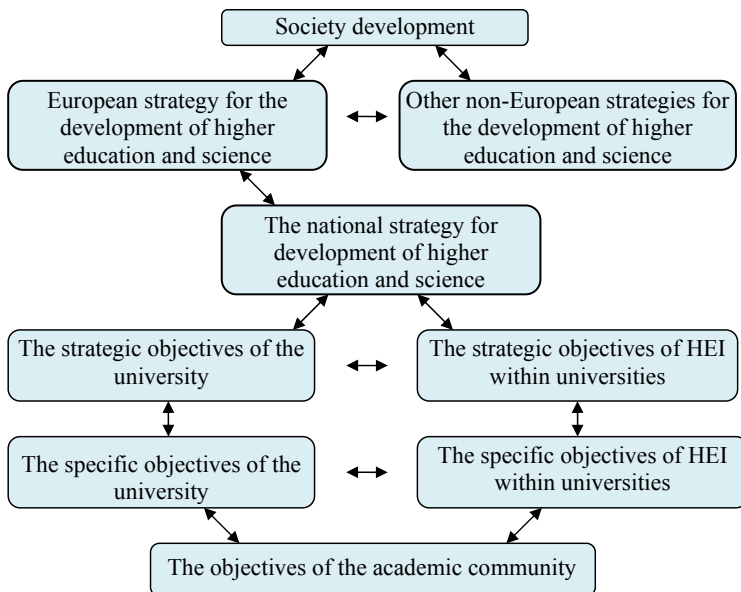
The internal evaluation of outcomes at the level of individual institutions of higher education is desirable, correct, but not sufficient.

Given that all higher education institutions in Croatia are part of a larger system, primarily national, and then European, it is necessary to harmonize their interactions. This should be done in the way that the lower levels act with the purpose of achieving the functions at the higher levels. This would contribute to the homogeneity of the European higher education system.

In order to achieve the required level of quality, higher education institutions primarily have to choose their goals properly. Proper goals are those that serve as guidelines for sustainable business. They have to be connected, not only with the national higher education strategy, but also to the strategy defined at the European level. In their definition it is necessary to take into account that the development of the

entire society is the final output. The proposal for defining goals of higher education is shown in the following scheme.

**Scheme 2** Defining the goals of higher education

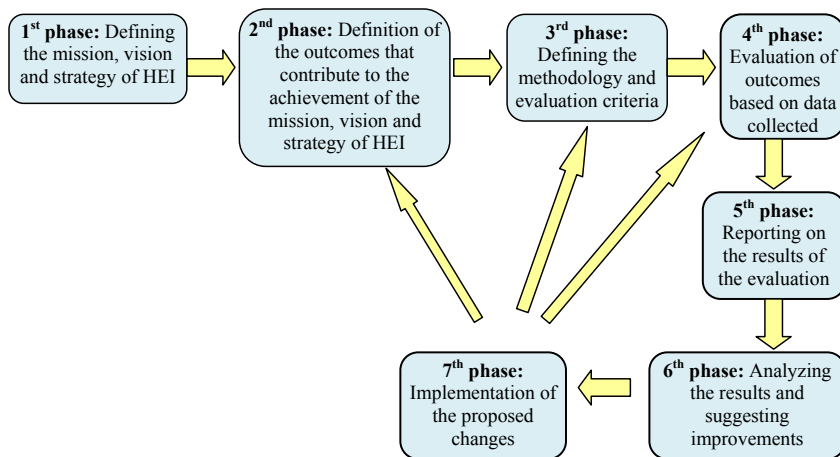


Source: Authors

The objectives, if defined correctly, will be connected at all levels. As such, they will be in the service of achieving social and economic progress. The problem of qualitative evaluation of the objectives is, among other things, that there are no proposed mechanisms for evaluation of qualitative effects. They are observed solely through the quantitative measures that often do not reflect the true nature of the evaluated effect. Also, it is important that all levels of goals are mutually harmonized and that their performance is coordinated.

The effectiveness of the institution is the process by which an institution defines how successfully has achieved a given mission. The correct definition of the mission and the outcome is crucial for achieving a higher level of its effectiveness. Thereby, the outcomes must be measurable. Continuous evaluation of effectiveness of the institution gives insight how well an institution is achieving progress (The University of Texas at Austin, 2013). In the case of higher education institutions, it is important to identify what is important, to define the outcomes, to monitor them and to use the results for the achievement of more effective business. The next scheme presents the proposal of the process for internal evaluation of outcomes, which implementation could lead to more effective business.

**Scheme 3** The process for internal evaluation of outcomes with the aim of achieving more effective operation of higher education institutions



Source: Authors

The proposal of the process for internal evaluation of outcomes with the aim of achieving a more effective operation of higher education institutions is set in 7 phases.

In the **1<sup>st</sup> phase** of the mission, the vision and strategy of the institution is defined. The mission represents the basic function without which its operation has no meaning. On the other hand, the vision represents the ideal future, while a strategy assumes certain actions with the purpose of achieving the desired objectives. From the mission, vision and strategy of the institution, the committee for internal quality insurance with the support of the institution management, defines the goals and outcomes in the **2<sup>nd</sup> phase**. After a certain period, the institution should be able to achieve and measure those goals and outcomes. The **3<sup>rd</sup> phase** is very important because here the committee for internal quality insurance defines the evaluation methodology for the set outcomes as well as the evaluation criteria. In this phase, as one segment of evaluation, the methodologies for evaluating the efficiency of higher education institutions should be incorporated since the effectiveness cannot be achieved without achieving the efficiency from period to period. The **4<sup>th</sup> phase** represents the evaluation process whose results are reported in **5<sup>th</sup> phase**. After the results report, the committee for internal quality insurance, in collaboration with the institution management board, proposes the actions for quality improvement. This is the subject of the **6<sup>th</sup> phase**. In the final, **7<sup>th</sup> phase**, the institution management should implement the proposed changes. These adjustments can be manifested in several directions. If the outcomes are not set realistically, or if they are not measurable, they will have to be changed. Also, the chosen methods of evaluation and the evaluation criteria are submissive to changes due to new knowledge about them. If, over a certain period of time, it would be found that use of other methods results in more accurate results, it is required to use them. Also, if the evaluation criteria have been set incorrectly, they need to be replaced. If the outcomes are set correctly, the evaluation method is satisfactory and the criteria for evaluation are realistic, after the institution adjusts to the proposed changes, it can be proceeded to the collection of new data and information based on which the outcomes are evaluated. The head of the institution has the responsibility for defining the institution



priorities. The head should also provide the required resources to the committee for internal quality insurance in order to carry out the evaluation.

#### 4. Conclusion

The issue of quality of higher education and higher education institutions, triggered by numerous changes in the higher education system of European countries, has become one of the main areas of economic and education policies in Europe. The problem of quality of higher education in this paper is approached from the point of effectiveness.

The proposed theoretical framework is based on the evaluation of the effectiveness in the way that the levels of achievement of objectives are formed respecting the "vertical". This means that the objectives at lower levels are in the function of the objectives at higher levels. Respecting the presented hierarchy of objectives would contribute to achieve homogeneity of higher education in Europe. Also, it would allow higher education institutions to establish their goals with the aim of achieving common, European goals. Keeping the above in mind, proposed is a process of internal evaluation of outcomes in function of HEIs effectiveness. The process is defined through seven phases that follow specific procedures of internal evaluation. This process provides the guidelines for improving the organizational effectiveness which can consequently lead to higher quality assessment.

Evaluation in higher education is a process that needs to be performed systematically to ensure the achievement of operational and strategic goals. This is imperative for the maintenance and growth of the quality of higher education institutions.

#### REFERENCES

- Bogetoft, P. i Otto, L. (2011): **Benchmarking with DEA, SFA, and R, International Series in Operations Research & Management Science**, Vol. 157, Springer Science+Business Media
- Budimir, V. (2006): **Značaj računovodstvenih informacija ua analizu uspješnosti ustanova visokog obrazovanja u Republici Hrvatskoj**, Magistarski rad, Zagreb, Ekonomski fakultet
- Budimir, V. (2010): **Mjerenje uspješnosti poslovanja proračunskih korisnika**, Riznica, 56(7): 14-21
- Cerović, Lj., Arbula, A., (2012): **Razumne granice vrednovanja sustava visokog ekonomskog obrazovanja**, Zbornik sažetaka znanstvene konferencije: Ekonomsko obrazovanje u Republici Hrvatskoj – jučer, danas, sutra, Zagreb, 38-40.
- Cerović, Lj., Arbula Blečić A. i Štambuk, A. (2014): **Relevant Areas and Indicators of Quality in Higher Education Institutions: Evaluating the System of Higher Education in Economics, Management**: Journal of Contemporary Management Issues, 19(2): 89-116.
- Ćukušić, M. (2011): **Procesna organizacija i uspješnost visokih učilišta**, istraživanje u sklopu izrade doktorske disertacije, Ekonomski fakultet Sveučilišta u Splitu
- Ćukušić, M., Garača, Ž., Jadrić, M. (2014): **Odrednice i pokazatelji uspješnosti visokih učilišta u Hrvatskoj**, Društvena istraživanja, 23(2): 233-257.

Dražić Lutilsky, I., Broz Tominac, S. (2013): **Pokazatelji uspješnosti na visokoškolskim ustanovama**, Zbornik radova znanstvene konferencije: Ekonomsko obrazovanje u Republici Hrvatskoj – jučer, danas, sutra, Zagreb

Drucker, P. (2006): **The Effective Executive: The Definitive Guide to Getting the Right Things Done**, Harper Business; Revised edition

**Institutional Effectiveness in Higher Education**, Research Starters eNotes.com, Inc. eNotes.com, <http://www.enotes.com/research-starters/institutional-effectiveness-higher-education#research-starter-research-starter>, (accessed 10 March 2016)

Ivković, M. (2009): **Osiguranje kvalitete u visokom obrazovanju**, Ekscentar, 64(11): 20-23.

Jakir – Bajo, I. (2003): **Mjerenje uspješnosti u hrvatskom javnom sektoru**, Računovodstvo, revizija i financije, br. 8

The University of Texas at Austin (2013): **Handbook for Institutional Effectiveness**, <http://www.utexas.edu/provost/planning/assessment/iapa/resources/pdfs/Handbook%20for%20Institutional%20Effectiveness.pdf> (accessed 13 April 2014)

Vašiček, V., Budimir, V., Letinić, S. (2007): **Pokazatelji uspješnosti u visokom obrazovanju**, Privredna kretanja i ekonomska politika, 17(110): 51-80.

**Josip Britvić, univ. spec. oec.**

Top Consult Group Ltd.

M.P.Miškine 88, 48363 P.Sesvete, Croatia

Phone: + 385 99 2897 601

E-mail address: josip.britvic@top-consult-grupa.hr

**Vladimir Grebenar, univ. spec. oec.**

Vinkoprom Ltd.

Z.Sremca 47, 32100 Vinkovci

Phone: + 385 99 439 4044

E-mail address: vladimir.grebenar@gmail.com

**Gabrijel Jakupec**

Technical Faculty Rijeka

Vukovarska 58, 51 000 Rijeka, Croatia

Phone: + 385 95 550 0853

E-mail address: gabrijel.jakupec@gmail.com

**INFLUENCE OF STANDARD ISO 9001:2015 ON HUMAN RESOURCE  
MANAGEMENT IN ORGANIZATION**

**UTJECAJ STANDARDA ISO 9001:2015 NA UPRAVLJANJE LJUDSKIM  
RESURSIMA U ORGANIZACIJI**

**ABSTRACT**

*Standard ISO<sup>1</sup> 9001:2008 defines requirements about resources that are necessary and required to an organization. Human resources inside the organization as well as their knowledge and competency are one of the most important resources. For the successful reach of the organizational goals, it is necessary to employ and keep the best features but also manage their competencies. In organizations that have implemented quality management system according to standard ISO 9001:2008 controlling human resources is described in one or a sequence of written working procedures depending on complexity and size of the organization. In common knowledge, career management has to establish unequivocally and document only in those organizations which have implemented quality management system according to demands of international standard ISO 9001. International organizations for standardization – ISO by the end of 2015. has issued a new version of standard ISO 9001:2015. The purpose of this work is to show how the new version of standard ISO 9001:2015 affects on career management compared to the previous version.*

**Keywords:** *Competitiveness, Career management, Quality management, ISO 9001:2015*

**SAŽETAK**

*Norma ISO 9001:2008 definira zahtjeve vezane uz resurse koji su potrebni i nužni nekoj organizaciji. Ljudski resursi unutar organizacije te njihova znanja i kompetencije su svakako jedan*

---

<sup>1</sup> ISO – International Organization for Standardization

*od najvažnijih resursa svake organizacije. Za uspješno dostizanje organizacijskih ciljeva nužno je zapošljavati i zadržavati najbolje kadrove, ali i upravljati njihovim kompetencijama. U organizacijama koje imaju implementiran sustav upravljanja kvalitetom prema normi ISO 9001:2008 upravljanje ljudskim resursima opisuje se u jednoj ili nizu pisanih radnih procedura, ovisno o kompleksnosti i veličini organizacije. Činjenica je da se upravljanje karijerom obavezno mora nedvosmisleno utvrditi i dokumentirati samo u onim organizacijama koje su implementirale sustav upravljanja kvalitetom u skladu sa zahtevima međunarodne norme ISO 9001. Međunarodna organizacija za standardizaciju – ISO izdala je krajem 2015.g.novu verziju norme ISO 9001:2015. Cilj ovog rada je dati prikaz kako nova verzija norme ISO 9001:2015 utječe na upravljanje karijerom u odnosu na prethodnu verziju.*

**Ključne riječi:** konkurentnost, upravljanje karijerom, upravljanje kvalitetom, ISO 9001:2015

## **1. Introduction**

Standard ISO 9001:2008 defines requirements related to resources that are necessary to an organization. Human resources inside an organization, and their knowledge and competencies are definitely one of the most important resources. People, as the new most significant resource on the market, are becoming a lever for making profit and with that they are holders of differentiation of business subjects (Fitzenz, 2000:1). All organizations asset, except people, is inertial and requires human application in order to create extra value. From previously stated it's possible to conclude that the basic objective of any modern organization is to hire and keep the best personnel which is ensured through Human Resources Management System which are part of the Quality Management Systems in an organization with an implemented ISO 9001:2008 Standard. Human resources as a term, within the organization marks individuals and their capabilities, but parallel with that term also marks the organizations activity which deals with hiring, firing, training and other actions related to the staff.

Globalization carries big and quick changes that greatly influence on changing the nature of the business and point out on the Career Management in order to constantly improve human resources, and by that all of the competitors on the market. Quality Management Systems are based on controlling and improving processes and on effective use of suitable resources. In the context of resources, Quality Management Systems point the attention of the organization to Human Resources Management and all with the goal to increase efficiency and competitiveness of the organization on the global market. From the previously stated a link is visible between Human Resources Management and Quality Management in organizations, however, the question is, can the Quality Management System be used as a tool for Management and development of Human Resources in organizations (Blažević and others, 2013:2). Quality Management System according to standard ISO 9001 defines requirements related to Human Resources Management.

The goal of the research is to show that standard ISO 9001:2008 defines requirements on the structure of Human Resources Management process and gives additional importance to Career Management System inside of that process, how for development of employees motivation like that for optimization of investments in career development and business successfulness of the organization. Also the goals is to show that the new version of the standard ISO 9001:2015 has increased requirements on the Human Resources Management System. The basic hypothesis of this paper is that the Quality Management System according to standard ISO 9001:2015 has a greater influence on the Human Resources Management process than the standard ISO 9001:2008. Which allows career planning with more quality, better organization of Career Management, making of a more quality plan of career development based on facts and a better and simpler control of Human Resources Management System process.

## **2. Methodology**

Qualitative research methodology was used in the paper while the data was collected combined from primary and secondary sources. Chosen method was considered appropriate because data processed and compared in the paper are available in the literature of the processed area. In chapter four results of comparative analysis of content were processed while in the third chapter they were presented. Chosen method of comparative analysis of content was chosen because authors had access to different limited and unlimited sources of information like international ISO standards and other relevant sources of data.

## **3. Results**

By comparative analysis, basic hypothesis is confirmed, that is, that the new standard ISO 9001:2015 has a greater influence on the process of Human Resources Management than the currently valid standard ISO 9001:2008 which is explained in detail in the paper. Also, both set goals have been achieved, it is determined that standard ISO 9001:2008 defines requirements on the structure of process of Human Resources Management and gives additional importance to the Career Management Systems inside that process. It is also shown in the paper that the proposition of new version of standard ISO 9001 has increased requirements on the Human Resources Management System.

## **4. Comparative analysis of content**

In further lines of the paper comparative analysis of content is shown, where in the first part theoretical review is given on the development of Human Resources and development of Quality Management System. In the second part of the comparative analysis of content, comparison of the previous version of Standard ISO 9001:2008 and new version of Standard ISO 9001:2015 is shown.

### **4.1. Theoretical review on the development of Human Resources**

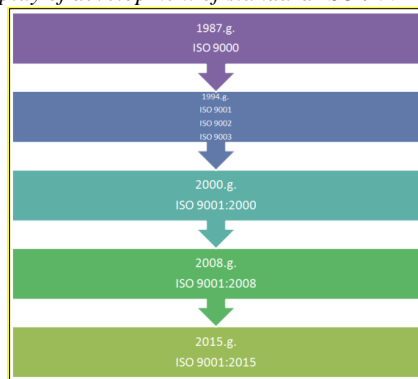
Human factor in economic development gains more and more on importance, which was the basic motive to scientist and researchers in clarifying issues and approaching them to managers of Human Resources with the purpose of gaining better results. The meaning of Human Resources stands out in the first half of the 20. Century, when importance of motivation, informal relationship, leadership style and similar was realized, and official literature from that period starts with significant analysis of this theme. Many authors, in the early phases, have pointed out the importance of constant investment into employees, and so in the 18. Century Adam Smith, in his works pointed out the importance of education of individuals for society in a whole. In the 19. Century Karl Marx, in analysis of factor productivity in the first place puts expertise and capabilities of a worker. In the 20. Century researches become focused on proving connection between education and economic successfulness, which highlights the importance of the role "Human Capital" and investments in it while achieving goals of economic development (Bahtijarević-Šiber, 1998:121). From the previous description it can be concluded that education and development of employees is connected with almost all aspects of Human Resources Management. Their assignment is to help create a structure of communication systems inside a company, which will help while using potential and knowledge of employees with the purpose of making business progress. In return, company needs to enable education and development in order to develop their potentials and establish necessary educational and development processes inside a company (Blažević i dr., 2013:3).

## 4.2. Development of a Quality Management System and conceptual definition

Term Quality is extremely hard to define because every individual has his perception of quality. Because of that, there is a number of different definitions for quality. In 2009 Lazibat defined quality as a measure or indicator of volume, that is, amount of use value of some product or service for satisfying exactly defined needs on a certain place in a certain moment, that is, when that product and that service, in a social process of exchange are confirmed as merchandise. In 2008 Funda defined quality as a “level to which a group of existing characteristics meet the requirements”, that is the totality of characteristics of products or services on which their capability is based to satisfy expected requirements.

Control of Quality intensively started to apply and develop in 1910 when Ford organization introduced the practice of production of automotive industry principles of organization F. W. Taylor. Function of the control was that the procedure of separation of bad products from the good ones became independent, that is, when it was separated from the production. First statistics quality control for monitoring production was made by an American W. A. Sherwart in 1924. By accepting philosophy of experts like Sherwart, Deming and Juran, quality of Japanese products rises, and west competitors start to fall behind. Japanese expert Kaoru Ishikawa finds that quality control assumes the quality of all employees and requires that all employees must be trained to be their own controllers. Standard ISO 9001:2008 is currently the most accepted standard on the market, that is the most commonly applicable model of Quality Management System. Standard was issued by the ISO organization and by present day had 4 revisions (1994., 2000., 2008. and 2015.g.). Picture NO.1 shows the development of ISO 9001 standard through history.

*Picture 1 Display of development of standard ISO 9001 through history*



*Source: Made by authors*

## 4.3. Elements of Standard ISO 9001:2008 as a Human Resources Management tool

Standard ISO 9001:2008, which will still be in use by the 10<sup>th</sup> month of 2018, is consisted of series of requirements, so-called. clauses in which obligations of organizations are defined in term of meeting the requirements of the stated standard. Clauses of standard ISO 9001:2008 are: 1) Area of application; 2) Connection with other standards; 3) Names, definitions and abbreviation; 4) Quality Management System; 5) Management responsibility; 6) Resources Management; 7) Product realization; 8) Measurement, analysis and improvement (ISO, ISO 9001:2008). When standard ISO

9001 is analysed in the context of Human Resources Management it is necessary to single out certain points of the standard in which the standard can be referred to Human Resources Management.

In the standards clause “Requirements on the documentation” sub-clauses are listed: Policy and goals, Quality Manual, procedures, other documents and records. Quality Management System Policy according to standard ISO 9001 strictly requests that the organization commits to constantly work on improvement and education of human resources. For an example of Quality Policy, Management Policy of a consultancy company Top Consult Grupa d.o.o. has been processed. Top Consult Grupa, have stated on their quality policy that their success is based on achieving maximum satisfaction of their users by providing high quality services through engagement, control and rewarding professional and highly motivated consultants and strategic partners. From the previously stated, there is a clear link of Standard ISO 9001 with Human Resources Management. In sub-clause “Procedures” standard states 6 basic procedures, which organization must establish. Procedures like Control of documents, control of records or conduction of internal audits are actually clear instructions how to execute a certain job, what at the end makes business easier to companies in cases like sick leave, vacation, and when there are significant staff turnovers. Standard clause 6.2. “Human resources”, gives specific requirements to the organization related to Human Resources. Standard requires that the organization defines the plan for education, archives and analyses records of staff training. Through analysis of stated clauses of standard and through example of Management Policy it’s obvious that one of the foundations of standard ISO 9001:2008 is function of Human Resources. That’s the reason why with the revision of standard in 2008, regarding to other changes, a bigger highlight was given to Human Resources Management

#### 4.4. New elements of standard ISO 9001:2015 as a Human Resources Management tool

Basic moto of Standard ISO 9001 is the increasing of users satisfaction through operative consistency and continuous improvements (ISO, ISO 9001). There are several reasons for new revision of standard ISO 9001. First reason is, since the previous revision which was in 2008, there has been significant global changes. One of the significant changes is that organizations more often deliver services and not physical products. Also it’s very important that the standard itself remains guarantee that organizations that have implemented the standard, offer products and/or services which fulfil buyers requirements. Also, standard needs to create foundation for Quality Management for the next 25 years. Emergence of constant requirements for connecting larger number of standards inside the same organization into one integrated system is also one of the reason for compliance with other ISO Standards (BSI<sup>2</sup>, 2013.).

In table 1 general display is given about standard ISO 9001 changes according to clauses of the standard. Theme of the paper are Human resources and that is the reason why the Clause 7 is highlighted, Resources Management and Knowledge Management.

*Table 1 Review of changes in the blueprint of the standard ISO 9001:2015*

Clause	Clause description	Change description
1	Scope	Significant changes
2	Opening guidelines	-
3	Terms and definitions	-
4	Organizational context	New requirement
5	Leadership and management of the organization	Increased requirements

<sup>2</sup> BSI - The British Standards Institution (www.bsigroup.com)

Clause	Clause description	Change description
6	Control of risk Changes Management	Significant changes Increased requirements
7	<b>Resources Management</b> <b>Knowledge Management</b>	<b>Increased requirements</b> <b>New requirement</b>
8	Design and development Outsourcing After-sales services	Simplified requirements Increased requirements Increased requirements
9	Pointers of successfulness	New requirement
10	Continuous improvement	Developed more detail approach

*Source: Made by authors*

Most significant changes related to Human Resources Management occurred in clause 7, requirements for Resources Management have been increased. On the existing requirements for Resources Management, requirement has been added that organization will define and gather resources necessary for implementation, maintenance and constant management of the Quality Management System.

A completely new requirement in clause 7 is Knowledge Management. New version of standard ISO 9001 defines Knowledge Management in way that seeks from the organization constant management with competencies, awareness and communication and for everything stated requires documented records which wasn't the case previously. More detail description of new requirements related to Human Resources is defined in table 2.

**Table 2** Display of new requirements of standard ISO 9001:2015 on the Human Resources Management System

<b>7.2. Competencies</b>	Organization needs to determine competencies of employees that affect the quality of performance of work tasks.
	Organization needs to ensure education and training to employees in order to achieve defined competencies.
	Where it's applicable, organization needs to take actions for acquisition of necessary competencies and evaluate the efficiency of those measures.
	Organization needs to archive and save data and records of capabilities.
<b>7.3. Awareness</b>	Persons who operate under the control of organization need to be aware of: <ul style="list-style-type: none"> <li>- Policy Quality,</li> <li>- Relevant Quality goals,</li> <li>- Own contribution to improvement of efficiency of the Quality Management System,</li> <li>- Nonconformities and deviations from the requirements of the Quality Management System.</li> </ul>
<b>7.4. Communication</b>	Organization needs to define own necessary requirements related to internal and external communication in a way that they will define what will they communicate, when and with whom.
<b>7.5. Documentation and records</b>	General requirements – Quality Management Systems must include: <ul style="list-style-type: none"> <li>- documented data that has been defined and required by this standard,</li> <li>- documented data that are important for efficiency of the Quality Management System.</li> </ul> Scope of the documentation depends on the size and complexity of the organization.



<b>7.5. Documentation and records</b>	Creating and updating documentation - Organization must define: <ul style="list-style-type: none"> <li>- standardized way of marking documentation,</li> <li>- documentation format,</li> <li>- media,</li> <li>- procedure for review and approval of suitability and adequacy of the documentation.</li> </ul>
	Organization is responsible to control the documentation and records in order to ensure that the documentation is: <ul style="list-style-type: none"> <li>- available and adequate for use, where and when it's necessary,</li> <li>- secured from loss, inappropriate use and similar.</li> </ul>

*Source: Made by Authors according to ISO 9001:2015*

## 5. Conclusion

By analysis of the literature of standard ISO 9001:2008 and new version standard ISO 9001:2015 a significant connection can be noticed with function of Human Resources. With comparative analysis of standard ISO 9001:2008 and new version ISO 9001:2015 it is determined indisputably that the requirements defined in the new version ISO 9001:2015 are more extensive, detailed and more demanding from the previous version of standard ISO 9001. In the new version of ISO 9001 structure of process of Human Resources Management points to logical sequence unfolding of process steps, from input requirements of users for competent workers to Career Management and final actions in process, requirements on those process have been significantly increased. Analysis points that Quality Management is a significant process step and without that there isn't Human resources Management. Like that, an organization with an implemented standard ISO 9001 has the possibility to use requirements of the standard, and the experience of the consultants during the implementation of the system, with the goal of establishing Human Resources Management System. Results of the research have confirmed the basic hypothesis, that is, that the new version of standard ISO 9001:2015 has a greater influence on the process of Human Resources Management than the previous version ISO 9001:2008. With this paper authors have achieved both set goals, that is they have determined that standard ISO 9001:2008 defines requirements on the structure of process of Human Resources Management, and adds additional importance to Career Management System inside that process. Also the authors have determined that the new version of standard ISO 9001 has increased requirements on the Human Resources Management System.

## REFERENCES

- Bahtijarević-Šiber, F., (1999). **Menadžment ljudskih potencijala**. Zagreb: Golden marketing.
- Bahtijarević-Šiber, F., (1998). **Informacijska tehnologija i upravljanje ljudskim potencijalima**, Slobodno poduzetništvo. Zagreb, 7/98., str. 121.
- Baruch, J., (2004). **Managing Careers: Theory and Practice**, Harlow: Financial Times, Prentice Hall.
- Cook, M. & Cripps, B. (2009). **Psihološko procjenjivanje na radnome mjestu**. Zagreb: Školska knjiga

Cox, E., Bachkirova, T. & Clutterbuck, D., (2010). **The Complete Handbook of Coaching**. London: Sage.

Drljača, M., (2012). **Upravljanje karijerom u funkciji kvalitete sustava upravljanja**, Zbornik radova VII. znanstveno-stručne konferencije s međunarodnim sudjelovanjem Menadžment i sigurnost, Upravljanje ljudskim resursima i sigurnost, Hrvatsko društvo inženjera sigurnosti. Čakovec: Sveti Martin na Muri, 2012, str. 253-264.

Funda, D., (2008). **Potpuno upravljanje kvalitetom u obrazovanju**. Zagreb: Kigen.

Fitzenz, J., (2000). **The ROI of Human Capital** – Measuring the Economic Value of Employee Performance, AMACOM, New York: NY

Lazibat, T., (2009). **Upravljanje kvalitetom**. Zagreb: Znanstvena knjiga

Skoko, H., (2000). **Upravljanje kvalitetom**. Zagreb: Sinergija.

Zhang, Z. (2000). **Developing a model of quality management methods and evaluating their effects on business performance**. Total Quality Management, 11(1), 129–137.

[www.bsigroup.com](http://www.bsigroup.com) (accessed: 05.02.2016.)

[www.iso.org](http://www.iso.org) (accessed: 07.02.2016.)

[www.top-consult-grupa.hr](http://www.top-consult-grupa.hr) (accessed: 10.02.2016.)

**Sabina Đonlagić Alibegović, assistant professor**

Faculty of Economics, University in Tuzla  
Univerzitetska 4, 75000 Tuzla  
Phone:+387-62-246534 Fax:+387-35-320821  
E-mail address:Sabina.djonlagic@untz.ba

**Adisa Delić, associate professor**

Faculty of Economics, University in Tuzla  
Univerzitetska 4, 75000 Tuzla  
Phone:+387-62-246534 Fax:+387-35-320821  
E-mail address:adisa.delic@untz.ba

**Enis Fazlic, dipl. oec**

Klaus Lehmann doo  
Grabovac bb, 75 320 Gračanica  
Phone:+387-35-708702 Fax:+387-35-708703  
E-mail address: enis@klaus-lehmann.ba

**THE INFLUENCE OF TEAMWORK ON INNOVATIVENESS IN  
TOURISM ORGANIZATIONS IN BOSNIA AND HERZEGOVINA**

**UTICAJ TIMSKOG RADA NA INOVATIVNOST TURISTIČKIH  
ORGANIZACIJA U BOSNI I HERCEGOVINI**

**ABSTRACT**

*Development of tourism in Bosnia and Herzegovina has become an important strategic economic development goal in this country. In order to achieve this goal it is necessary to increase the competitiveness of tourism sector in B&H. Even though literature indicates the importance of teamwork on innovativeness of organizations, the recognition of organizational innovativeness in tourism is a relatively recent phenomenon and especially its contribution to increased competitiveness. In this paper we present the results of an empirical research among tourism organizations in Bosnia and Herzegovina. It is argued that teamwork efficiency should be measured and that efficient teamwork has positive impact of innovativeness in tourism organizations in Bosnia and Herzegovina. The presented empirical research aims to clarify the significance of teamwork and innovativeness in tourism organizations and to provide understanding of teamwork measurement and efficiency and to test its influence on organization's innovativeness. Hypotheses regarding the relationship of teamwork and innovativeness are tested based on data collected from managers and team members in tourism organizations in Bosnia and Herzegovina. The results indicate that efficient teamwork affects the level of innovativeness in these organizations.*

**Key words:** *teamwork, innovativeness, tourism, Bosnia and Herzegovina*

## SAŽETAK

*Razvoj turizma u Bosni i Hercegovini postao je važnim strateškim ekonomskim razvojnim ciljem u Bosni i Hercegovini (BiH). Kako bi se postigao ovaj razvojni cilj neophodno je unaprijediti konkurentnost u oblasti turizma u BiH. Usprkos tome što se u literature odavno ističe važnost timskog rada za inovativnost organizacija, isticanje organizacijske inovativnosti u turizmu je relativno recentan fenomen, a posebno posmatran sa aspekta njegovog doprinosa povećanoj konkurentnosti. U ovom radu se prezentuju rezultati empirijskog istraživanja provedenog među turističkim organizacijama u BiH. U radu se argumentira da bi se efikasnost timskog rada trebala mjeriti i efikasan timski rad ima pozitivan uticaj na inovativnost turističkih organizacija u BiH. Prezentirano empirijsko istraživanje ima za cilj da rasvijetli značaj timskog rada na inovativnos turističkih organizacija i doprinese razumijevanju mjerenja timskog rada i efikasnosti timskog rada, te testira njegov uticaj na organizacijsku efikasnost. Hipteze vezane za vezu timskog rada i inovativnosti su testirane na bazi podataka prikupljenih od menadžera i članova timova u turističkim organizacijama u BiH. Rezultati ukazuju na to da efikasan timski rad utiče na uneprijeđenje inovativnosti u ovim organizacijama.*

**Ključne riječi:** *timski rad, inovativnost, turističke organizacije, Bosnia and Herzegovina*

### 1. Introduction

As it is known tourism is important for economic growth and it is considered to be one of the best opportunities to create income and employment. However, innovation in tourism has not received enough attention in policy creation and academic debates in B&H even though tourism is a branch of strategic importance for its economic development. Significant and quick changes are taking place in tourism today (e.g. “greener” tourism, customized tourism forms etc.). Changes in technology are especially significant for the tourism sector, and the question is how to incorporate them into the tourism sector and tourist offer in order to make it more competitive and more unique. Especially having in mind the growth of the global tourism market, the increase in number of passengers in the world, in general, and the rising competitiveness among tourist destinations. On the other hand, these changes also influence both the interests and expectations of tourists. All of the above mentioned demands certain actions in order to improve the competitiveness of countries as tourist destinations. The improvement of tourism competitiveness is inevitably linked to innovation in general, especially to innovation within the tourism sector. Innovation in tourism brings new ideas, services and products to the marketplace (OECD, 2003). Over the past years the term “innovation” has been used to describe development behaviour of tourism enterprises (Hjalager, 2002). Today the tourism business is expected to be innovative, able to manage innovation processes and to invest in raising the innovation potential. Organizations should constantly develop new products, services and processes in order to create competitive advantage in specific economic circumstances and should develop a set of organizational characteristics in order to achieve: innovation, flexibility, teamwork, research and consumer-based orientation (Serinkan, Kiziloglu, 2015).

In this paper we aim to address the importance of innovation in tourism and to identify how innovativeness of tourism enterprises can be improved through efficient team work. The main premise of the paper is that efficient team work influences the level of innovativeness in tourism enterprises. The paper is structured as follows: the first section provides key points

from relevant literature; the next section presents methodology used in this research; the fourth section looks at key findings of the research and influence of effective team work on innovativeness in tourism; the final section presents conclusions based on research results and literature review.

## 2. Literature review

Innovation and competitiveness are of particular importance in modern knowledge-based economies and enterprises need to innovate in order to enhance their competitive advantage. (Booyens, 2012). In scientific literature innovation is emphasized as an important strategy that enables organizations to adjust to the needs of consumers and to maintain their competitiveness (Baregeh, Rowley & Sambrook, 2009; Battistelli, 2009; Cantarello, Martini & Nosella, 2012; Goswami & Mathew, 2005; Sheu & Lee, 2011). Various authors point out the importance of innovation for a company. Innovation is considered a key factor for the survival and growth of the company (Baregeh et al., 2009), and the result is enhancement of creativity within the companies due to market pressure (Gassmann, 2001). Therefore, a growth of interest in organizational creativity and innovation of companies is evident (Horwitz, Horwitz, 2007), in order to respond to trends and changes in environment by improving innovation (Baregeh et al., 2009).

Given the topicality of this concept in scientific literature, many authors in different ways define the concept of innovation. The first author to introduce the notion of the term in scientific literature was Schumpeter stressing that innovation is the *driving power of development*, and is defined as the presentation of a new product that is yet to be done or as a new quality of an available product, as well as introduction of new methods and processes of production, opening of new markets, winning of new markets and reorganization and redesigning of business (Serikan, Kiziloglu, 2015; Peter, Pikkemaat, 2006; Drucker, 1984). According to Drucker (1984), innovation is an instrument of entrepreneurship and activity that provides necessary resources for the creation of new capacity. The Oslo Manual (2005) defines innovation as the implementation of a new or significantly improved product (good or service), or process, a new marketing method or organizational method in business practice, organization or external relations. Many authors define innovation as novelty or newness whilst others define it as a process or a problem solving technique (Baragheh et al., 2009, Goswami, Mathew, 2005; Battistelli, 2009; Sheu, Lee, 2011; Fernandez Cardoso, 2013). Drucker stated that innovation is the change that creates a new dimension of performance, and Rogers (2003) considered innovation as the creation of a new product-market-technology-organization.

Competitiveness plays a central role in the success of tourism destination and innovation holds the key to survival and competitiveness in this industry (Booyens, 2012). Innovations in tourism take place very often. Although they are more complex than innovation in other sectors (Čavlek, Matečić, Ferjanić Hodak, 2010), innovations in tourism have specific characteristics which distinguish them from innovation in other sectors. Primarily these differences arise from the notion that a tourism product is a so-called „experience good“ which is validated by consumers after consumption and who commit their experience to memory and build upon it (OECD, 2005) furthermore a tourism product is closely related to location and space where the services are provided (such as cultural heritage, places of interest, sports ventures etc.). Another characteristic of innovation in tourism arises from the inability to meet certain requirements of innovation that are being fulfilled in other sectors (

number of patents, investments in research and development etc.). In general, innovations in tourism are more complex than innovation in other sectors, because they have to be profitable and both, increase the value of the tourism product and the experience of tourists (Weiermair, 2004), and include the complete tourism value chain (Čavlek, Matečić, Ferjanić Hodak, 2010). Tourism enterprises need to adapt to changing tastes of tourists, changing preferences, new technologies and continuously develop new products and services.

Within the organization, teams are mostly responsible for innovation, therefore, effective teamwork is crucial for innovation in organizations. A key element of every innovative organization is effective teamwork. In general, teamwork is dynamic and a simultaneous enactment of process mechanisms, which inhibit and contribute to team performance and performance outcomes (Salas et al., 2007). Researchers have emphasised the relevance of teamwork for success of organizations in various studies and concluded that working with other individuals increases job satisfaction and productivity (West, 2004) and that teamwork remains the ultimate competitive advantage (Lencioni, 2002). Organizations often rely on teamwork for continuous improvement of products and services (Judeh, 2011). Organizations are also becoming more aware of the importance of understanding team effectiveness (Azmy, 2012) since teams are evaluated based on their effectiveness. Reasons for the need of measuring team effectiveness can be found in the expectation that more effective teams will better achieve their goals, effective teamwork will result in improvement of quality and productivity and attitudes of employee (Manz, Sims, 1993; Ray, Bronstein, 1995; Beyerlein, Harris, 1998; Cantu, 2007).

Team effectiveness is the extent to which a work team meets the performance expectations of key counterparts (managers, customer and others) while continuing to meet members' expectations of work with the team (Sundstrom, 1999). It is important because it is considered to be one of the most important determinants of the companies' success (Judeh, 2011). Most organizations use teams to improve productivity and innovation (Devine et al., 1999; Lam, 2012). Authors have focused on identification of characteristics of teams and team effectiveness and an universally applicable model of team effectiveness has not been developed so far (Henderson, Walkinshaw, 2002). Measuring team effectiveness based on the use of a team effectiveness questionnaire has proved to be useful in providing context for improvement of team effectiveness (Bateman, Wilson, Bingham, 2001). This questionnaire has been proven to be adequate for measuring team effectiveness in the service sector. The team effectiveness construct developed by Wilson et al. which consists of the following categories: synergy in team, clear performance objectives, team members' skills, effective use of resources, innovation and quality. Team synergy is related to the sense of purpose which is shared among all team members and which should have clear performance objectives that are monitored on an ongoing basis. Besides that, team members should have necessary skills, be adequately trained and have competences needed to do the work. The use of resources is one of categories in this model and is related to the need for adequate use of all available resources which could be optimally employed in order for the team to constantly improve ways of working and solving problems. The team should also have a high customer awareness and observe the standards which apply during the process.

### **3. Research methodology**

The main purpose of this research was to determine whether and how effective teamwork influences innovativeness in touristic organisations in Bosnia and Herzegovina. Data was

collected using the survey research method and data analysis included linear regression to multiple linear regression in order to model the relationship between variables.

**Table 1** Research population

Category of hotel	population	Sample
Hotels 4*	100	25
Hotels 5*	14	5
Total	114	30

Source: Authors' research

Teamwork effectiveness is measured based on the adjusted Wilson, Bateman, Bingham team effectiveness questionnaire. The questionnaire was developed and adjusted by authors based on the review of relevant literature. The questionnaire comprised of over 70 questions in 8 sections: the first section aimed to examine the characteristics of the enterprise and its relation to environment, sections 2 to 7 aimed to examine the effectiveness of teamwork and questions in section 8 are related to innovativeness in the organisation. Team effectiveness in 6 categories was measured using a 5-point Likert scale (1=completely disagree to 5=completely agree). An overall score for team work effectiveness is derived from each subscale which is averaged to get a summary score. The questionnaire was also used to collect data on demographic characteristics of examinees (e.g. age, gender etc.). The research was conducted on hotels categorized with 4 and 5 stars. A proportional stratified random sample was formed, which included a total of 30 hotels and a sampling rate higher than 25%. Therefore, the sample can be considered of sufficient size to conduct this research. A total of 30 questionnaires were submitted and responded to (response rate 100%).

#### 4. Research results

The research was conducted on 30 companies, of which 12 range from 10 to 20 employees, 5 companies from 20 to 30 employees, 3 up to 40 employees and 9 companies from more than 50 employees. A characteristic of all companies included in the research is a dominant number of employees with secondary level education, the number of employees with higher education is less than 10 (two companies do not have employees with higher education), except in two tourist enterprises where the number of employees with higher education is above 10. In order for tourism companies to be innovative it is primarily to understand the environment in which they operate. The responses related to identifying the characteristics of the environment are presented in the following table.

**Table 2** Characteristics of business environment (%)

Questions	5	4	3	2	1
Customers are more demanding and their needs are harder to fulfill	36,7	46,7	13,3	3,3	0,0
Customers have more choice and increased negotiation power	40,0	36,7	20,0	3,3	0,0
Competition in your branch of industry is increasing and competitive pressure is harder to sustain	33,3	46,7	16,7	3,3	0,0
As danger in your branch of industry you can define interest or the entry of foreign competitors on our market	36,7	46,7	16,7	0,0	0,0
The environment in which your company	33,3	30,0	36,7	0,0	0,0

operates is simple (a small number of environmental factors have a significant impact on your business)					
Changes take place frequently in the environment in which your company does business.	20,0	33,3	46,7	0,0	0,0
The changes taking place in the environment in which your company operates are similar in character.	26,7	40,0	33,3	0,0	0,0
Changes taking place in the environment in which your company operates are generally expected and can be predicted.	20,0	33,3	46,7	0,0	0,0

Source: Authors' research

The results show that the highest degree of agreement is achieved in the case of the statement „Customers are more demanding and their needs are harder to fulfill“ as well as with the statement „As danger in your branch of industry you can define interest or the entry of foreign competitors on our market“ with 83,4% of all respondents.

**Table 3** The key success factors in today's business environment for the company (%)

Questions	5	4	3	2	1
The ability to accept change and the need for change agents (someone who carries out change processes and overlooks the process)	20,0	60,0	20,0	0,0	0,0
Creativity (ability to combine ideas in a unique way or to find unusual relations between ideas)	3,3	60,0	36,7	0,0	0,0
Innovation (the ability of companies to focus their creativity on achieving useful results- transform creative ideas into products or processes that can be used or sold)	36,7	43,3	16,7	3,3	0,0
Characteristics that make it a leader in industry/market (having characteristics of a so-called „world class organization)	16,7	33,3	36,7	10,0	3,3

Source: Authors' research

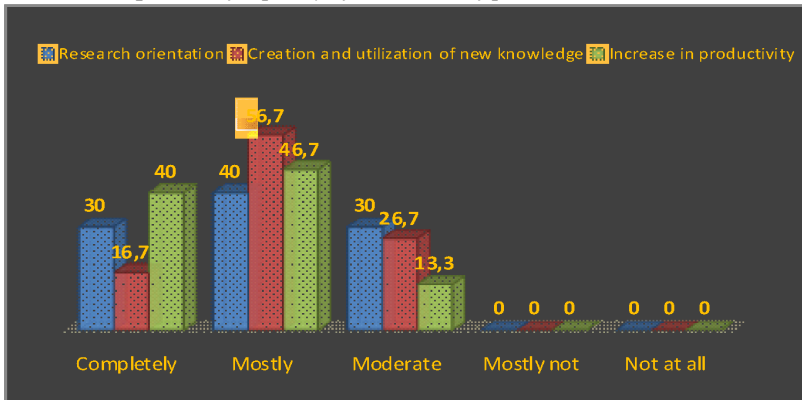
The results show that 80% of respondents have defined following questions as the key factors „The ability to accept change and the need for change agents (someone who carries out change processes and overlooks the process)” and “Innovation (the ability of companies to focus their creativity on achieving useful results- transform creative ideas into products or processes that can be used or sold)”.

Graph 1 shows the frequency of orientation to research, creation of new knowledge and its integration in new products and the achievement of higher innovation productivity. The presented indicators show how all companies are research-oriented and aspire to innovate in order to increase productivity, develop new products. Prevailing characteristics (40%) are that companies are largely focused on research, whereas 56,7% of companies develop new knowledge and incorporate it into new products in order to increase productivity (46,7%). By performing the Chi-square test we found that there is a statistically significant difference between the mentioned categories, whereby companies are statistically more oriented towards research ( $\chi^2=4,80$ ;  $p=0,028$ ;  $df=1$ ); they develop new knowledge and incorporate it into new products ( $\chi^2=6,53$ ;  $p=0,011$ ;  $df=1$ ) and tend to increase productivity ( $\chi^2=16,13$ ;  $p=0,0001$ ;



df=1) through innovation. Based on mentioned indicators it can be concluded that the innovation of new products/services is a dominant form of innovation within the tourism sector in companies in the Federation of Bosnia and Herzegovina.

**Graph 1** The frequency of innovation of products / service



Source: Authors' research

In order to determine the relationship between teamwork and innovation formed upon the indicators which refer to the level of application of teamwork in companies, measures for estimation of teamwork efficiency such as team synergy, common goals, skills, use of working materials, improvement of work and working methods, quality and quality management in companies. The dependent variable indicators make innovation of tourism companies in Bosnia and Herzegovina such as the number of new and innovated products /services introduced in a certain period of time, introducing new ways of conducting operational activities (logistics, procurement etc.), the application of innovative technological solutions, application of modern technologies, the profit made by selling innovated products/services etc.

**Table 4** Descriptive indicators for the variables of teamwork and innovation in enterprises

	Mean	Std. err	Min	Max
Team work	92.63	14.68	63.00	123.00
Innovativeness	5.83	1.70	3.00	9.00

Source: Authors' research

The table shows descriptive variables of innovation and teamwork in companies included in the research. The results show an average score of 92,63 reached on indicators related to teamwork with a standard deviation of 14,68 a lowest score of 63,00, and the highest score of 123 points. It is important to point out that all scores were formed in a way that the lowest represents the highest degree of certain phenomenon, whereby 63 points show that teamwork is higher than in companies with a grade of 70. On a scale of innovation the average score was 5,83 with a deviation of 1,70 and the lowest (best) result of 3,00 and the highest (worst) result

of 9,00. In order to test the hypothesis that there is a notable influence of teamwork on innovation in companies we used linear regression.

**Table 5 Results of linear regression**

Pearson correlation	R <sup>2</sup>	F	P
0,447	0,200	6,983	0,013

Source: Authors' research

The table shows the statistical importance of the suggested model (F=6,983; p=0,013) which brings to conclusion that the teamwork variable influences innovation in companies whereby a correlation between variables was 0,447 and a squared correlation was 0,200. The Squared Correlation shows that 20% of innovation in companies is explained by the teamwork variable, which means that teamwork explains 1/5 of all innovation activities in companies, whereas the remaining 4/5 depend on other factors. Standardized beta coefficient was 0.447, which means that an increase in teamwork by one standard deviation (14.68 points) leads to an increase in innovation for 0.447 standard deviations (0.76 points).

In order to determine the influence of teamwork, synergy, company's goals, team skills and the usage of resources in innovation processes in companies we have created a new variable by linear combining, which is related to overall score of innovation in companies and which included all indicators related to innovation used in the research. Before approaching the analysis we have checked whether the assumptions of multicollinearity meet the expectations by checking the correlation coefficient between predictors and criteria. It was found that the correlations range from -0.127 to -0.374, which indicates the existence of a link between these variables to which none of the variables does not exceed the correlation coefficient of 0.700, which would be too high. There is also an evident correlation between the predictors, that does not exceed the value of  $r=0.900$  (Tabachnick i Fidell, 2012), which indicated the absence of multicollinearity. Collinearity which is estimated by the measures of tolerance and the factor inflation variance (VIF) indicates that there is no violation of the criteria. As criteria guide we have used the values of tolerance over 0.10 and VIF values of less than 10 (Tabachnick and Fidell, 2012).

**Table 6 Results of multiple regression analysis<sup>1</sup>**

Model	R	R <sup>2</sup>	R <sub>adj</sub> <sup>2</sup>	F <sub>p</sub>	P
1	0,689	0,475	0,344	3,621	0,017

Source: Authors' research

The table shows that a part of the index innovation variance is by 47,5% explained by teamwork, synergy, resource usage, team skills and company's goals. The adjusted R, which is appropriate due to the size of our sample, indicates that a part of the variance explained by the length of treatment is satisfactorily high with 34,4%. The ANOVA results, which estimate the significance of the model, and which in the first step of the analysis of variance showed

<sup>1</sup> Legend: R- correlation coefficient; R<sup>2</sup> – coefficient of determination; R<sub>adj</sub><sup>2</sup> – adjusted coefficient of determination; R<sup>2</sup><sub>p</sub>- the degree of change in the coefficient of determination; F<sub>p</sub>- the degree of variation in the ratio in the analysis of variance, p – significance level; CI- confidence interval

that the model was statistically significant  $(5, 25) = 3,621; p = 0,017$ ; or that variables of synergy, company's goals, team skills, resource management and teamwork contribute to the prediction of an overall innovativeness of a company.

**Table 7** The unique contribution of predictors

Model	Standardized beta coeff.	t	p.	95% CI	
				Lower	upper
(Constant)		2.803	.011	.572	3.899
Synergy	.111	.584	.566	-.178	.317
Company's goals	.289	1.650	.115	-.042	.361
Team skills	.151	.843	.409	-.182	.428
Resource management	.454	2.636	<b>.016</b>	.045	.389
Teamwork	-.044	-.240	.813	-.007	.005

Source: Authors' research

The table shows the unique contribution of each of the predictor variables. The indicators show the highest standardized beta coefficient recorded in case of resource management (0,454). The above mentioned indicator is the only indicator having contribution in the process of predicting the innovativeness of a company. Based on the results it can be concluded that synergy, resource management, team skills, company's goals and teamwork show a relation to innovativeness of a company, whereby resource management has a unique contribution to predicting the innovativeness of a company. The process of resource management has influence on innovativeness regardless the presented model.

## 5. Conclusion

In this paper we determined that the importance of innovation in service sector, especially in tourism, has been underestimated for a long time. At the same time, tourism is of great importance for economic development and employment in B&H. Therefore, tourism sector needs to be competitive and tourism enterprises need to be innovative in order to remain competitive in the market. We saw that tourism enterprises are aware of their changing business environment and that they are aware of the fact that customers are getting more demanding and their needs are harder to fulfill. This trend is in accordance with global trend in tourism sector. In addition, tourism enterprises are also aware of the threat of foreign investors entering the tourism sector in B&H. The results indicate that keys to success for the tourism enterprises in B&H are the ability to accept change and innovativeness in order to remain competitive. Based on the research results we can also conclude that most of the tourism enterprises are research oriented and aspire to innovation, especially innovation of new products and services. Moreover, this paper suggests that teamwork influences innovation in these enterprises and that teamwork variables synergy in team, focus on company's goals, team skills and especially resource management contribute to overall innovativeness of tourism enterprises. Based on the research results we argue that the research hypothesis is confirmed and that team work in tourism enterprises (especially in small and medium ones) influences its overall innovativeness. Thus there is a need to direct future research towards drivers of innovation and innovation policies in tourism sector due to its importance for this country's economic development.

## REFERENCE

- Bateman B., Wilson F.W., Bingham D., (2001): *Team effectiveness-development of an audit questionnaire*, *Journal of management Development*, Vol.21, No.3, p.215-226
- Beyereim M., Harris C., (1998): *Introduction to Work teams*, 9th annual International Conference on Work teams
- Booyens I., (2012): *Innovation in tourism:a new focus for research and policy development in South Africa*, *Africa insight*, Vol. 42(2), Africs Institute of South Africa, pp. 112-126
- Cantu C.J., (2007): *Evaluating team effectiveness: examination of the TEAM assessment tool*, Phd Thesis, University of North Texas, USA
- Devine D.J., Clayton L.D.m Philips J.L., Dunford B.B., Melner D.B., (1999): *Teams in organizations: prevalence, characteristics and effectiveness*, *Small Group Research*, Vol.30, p.678-711
- Drucker, P.F., (1985): *Innovation and entrepreneurship*, Harper Collins Publishers, NY, USA
- Hjalager A.M., (2002): *Repairing innovation defectiveness in tourism*, *Tourism management*, Vol.23, Issue 5, pp.465-474
- Lam T.M., (2012): *The influence of Team trust, potency and leadership on the intent to share knowledge and team creativity*, DBA thesis, Southern Cross University, Lismore, UK
- Manz C.P, Sims H.P., (1993): *Business without bosses: How self-managing teams are building high-performing companies*, Wiley & Sons Inc., NY,USA
- Organisation for Economic Co-operation and Development, (2005): *Oslo Manual-The measurement of scientific and technological activities: proposed guidelines for collecting and interpreting technological innovation data*, 3rd Edition, <https://www.oecd.org/sti/inno/2367580.pdf> (accessed 01.02.2016)
- Ray D., Bronstein H., (1995): *Teaming up: Making the transition to a self-directed team-based organization*, McGraw-Hill, NY, USA
- Rogers E.M., (2003): *Diffusion of innovations*, Free Press, NY, USA
- Serinkan C., Kizloglu M., (2015): *Innovation Management and Teamwork: An investigation in Turkish Banking Sector*, *Journal of Management policies and Practices*, Vol.3., No.1., p.94-102

**Mira Hajdić, PhD**

Elekta-C, plc.  
Smiljanića 2, 21000 Split, Croatia  
E-mail address: mira.hajdic@gmail.com

**Darko Rendulić, PhD**

Karlovac University of Applied Sciences  
Trg J.J.Strossmayera 9, 47000 Karlovac, Croatia  
E-mail address: darkorendulic1@gmail.com

**Andrijana Ostojić Mihić, PhD**

University of Mostar, Faculty of Science and Education  
Matice hrvatske bb, 88000 Mostar, Bosnia and Herzegovina  
E-mail address: ostojicandrijana@gmail.com

**STRATEGIC DEVELOPMENT AND INTEGRATION OF KNOWLEDGE  
MANAGEMENT THROUGH THE LIFE CYCLE  
OF CROATIAN ENTERPRISES: AN EMPIRICAL ANALYSIS**

**STRATEŠKI RAZVOJ I INTEGRACIJA UPRAVLJANJA ZNANJEM KROZ  
ŽIVOTNI CIKLUS HRVATSKIH PODUZEĆA: EMPIRIJSKA ANALIZA**

**ABSTRACT**

*In this paper, we analyse the involvement of the Knowledge Management (KM) practice and KM managers into the development of business strategy. Firstly, we present the theoretical determinants of the Knowledge Management strategy, its integration into the enterprise strategy, as well as its links with the strategic aspects of the Human Resource Management (HRM). In the empirical part of the paper, the evaluation of KM strategic aspects is conducted on a sample of 78 Croatian enterprises, ranging from start-ups, to mature organizations. In addition, the potential relationship between the KM strategic development/integration and the stage of the enterprise lifecycle is empirically evaluated, as to develop an additional insight into the development of KM-related managerial practices in Croatia.*

**Key words:** Knowledge Management, strategic development, strategic integration, enterprise life cycle, Croatia

**SAŽETAK**

*U ovom članku analiziramo uključenost upravljanja znanjem i menadžera znanja u razvoj poslovne strategije. Prije svega, predstavljamo teorijske odrednice strategije upravljanja znanjem, njenu uključenost u strategiju poduzeća te povezanost sa strateškim aspektima upravljanja ljudskim resursima. U empirijskom dijelu istraživanja, vrednovanje aspekata upravljanja znanjem provedeno je na uzorku od 78 hrvatskih poduzeća, od novootvorenih do zrelih. Nadalje, vrednovana je potencijalna povezanost strateškog razvoja/integracije upravljanja znanjem i stadija životnog ciklusa poduzeća, da bi se postigao dodatni uvid u razvoj prakse upravljanja znanjem u Hrvatskoj.*

**Ključne riječi:** upravljanje znanjem, strateški razvoj, strateška integracija, životni ciklus poduzeća, Hrvatska

## 1. Knowledge as a strategic resource

According to resource-based theory of strategy, knowledge is one of the sources of the competitive advantage. Knowledge is specific, when compared to other resources. It is intangible and difficult to measure, volatile, increases when used, may be used simultaneously as input for multiple processes, it is often embodied in actors who have their particular objectives (Wiig et al., 1997). Grant (1996, 111-112) identified characteristic of the knowledge as a (strategic) factor of generating value:

- **transferability**, i.e. whether it can be sold/bought and transferred to other organizations,
- **aggregating capacity**, which determines efficiency of the knowledge transfer and is directly related with the ability to absorb the knowledge transferred;
- **rent-seeking capacity**, considering that tacit knowledge does not have capability of direct creation of the rent but only through its application in production, while explicit knowledge is related with two significant problems – knowledge as public domain which is not depreciated by selling (Arrow, 1994, cit. u Grant, 1996, str. 111) and the fact that exposing knowledge to the market it becomes available for the potential buyer (Arrow, 1971, cit. u Grant, 1996, str. 111). Ownership over the knowledge is doubtful, except patents and copyrights;
- **specialization in gaining knowledge**, which is directly related with limited absorption of the knowledge requiring specialization of the individual for generating new knowledge;
- **production requirements**, since knowledge is an essential production input (acc. to the competitive advantage theory).

Liebowitz (1999) emphasizes some of the ways by which Knowledge Management (KM) is able to achieve the strategic valuation of knowledge:

- KM may provide innovative strategy which would not be possible other ways. E.g., a company can combine in a new way existing methods and software at system integration and achieve higher productivity than competitors.
- KM may provide better performance of the important common strategy in a particular industry.
- Companies may achieve advantage by adding knowledge into products and services on the market. It can be complementary with the existing product or service, like offering packages for the IT support which can be offered separately as well.
- Companies can also achieve competitive advantage by exploiting knowledge and KM in a way to successfully realize non-strategic processes, too. Those KM initiatives are usually of wide focus and refer to the whole range of business activities and try to identify best practices and transfer them and apply in own company. If the company is capable of exploiting supplier's knowledge in order to improve its deliveries, share financial knowledge or even use knowledge from human resources or information system, it may gain significant advantage upon competition.

## 2. Strategic aspects of managing knowledge

Before transforming knowledge into a valuable resource, it must pass through certain processes, i.e. formalization, distribution, exchange and exploitation (Bergeron, 2003). The goal of implementing a KM system is achieving synergy in the company, improving cooperation among employees to a higher level and enabling usage of the knowledge for all members. The aim of the KM process is to make the company more intelligent, to search for alternative ways of gaining and using knowledge providing long term sustainability (Rupčić & Žic, 2012). The KM strategy should follow its competitive strategy.

It is also important that KM strategy of the enterprise fulfills certain criteria (Firestone, McElroy, 2003). It should primarily be oriented towards recognizing and solving problems related with the efficiency of the business processes. Strategic KM should involve measures for identification and assessment of probable future crisis situations, resource allocation and improvement of business

efficiency. KM strategy should also be designed in a way to stimulate processes of individual and group learning (ibid.).

Schneider (1990) discusses KM links to the human resource management (HRM) field, as a continuous process of managing all kinds of knowledge, in order to fulfil actual and future business needs, identify, use and develop knowledge and create new opportunities. Therefore, we should skilfully manage three core components of KM: employees, contents and technology. HRM-based approach to KM cannot be viewed separately from the values and norms and implicitly organizational culture, as they influence the transfer of knowledge through the company (North, 2008). In addition, KM is inseparately linked to the strategy of the human resource development (Badamshina & Baker, 2002; Taradi et al., 2012).

In order to create innovative climate, organisations may stimulate free minded thinking, public declaring of opinions or ideas, exploring nonroutine alternatives. Under influence of innovative climate, when members of team face certain problems or difficulties they may act proactively and jointly to find adequate solutions (Edmondson, 1999). Employees are also more inclined to interaction and share of knowledge to generate creative solutions (Norrgrén & Schaller, 1999).

Innovative climate leads to intensifying of the social interaction among the community members. In the organization which has developed strong innovative and cooperative climate employees accept networking and sharing of gained knowledge as acceptable behaviour. Many managers understand their role in a way that their core task is to find the best people, motivate them and let them work their own way (Bahtijarević Šiber, 1997). HRM needs to awake the importance and stimulate social interaction among employees, in order to connect organizational climate, culture and assist KM.

It is also important to direct efforts to creating the organizational culture, which stimulates learning and KM (Davenport & Prusak, 2000, De Long & Fashey, 2000). KM is followed by some prejudices, such as (Davenport & Prusak, 2000):

- Some companies expected it was enough to establish data base and the rest would happen; filled data bases and browsers do not guarantee usage – it is process to be run.
- Some companies expected technology to replace direct contacts. It appeared that the best KM processes are combination of high-tech and direct contacts.
- Concentrating to information only, some companies started to lose focus on employees.
- Some companies supposed sufficient to establish formal knowledge management positions.
- Some companies haven't used the right tools; complex hardware and software remained useless without persistent application of adequate processes which enable their optimal usage.

However, during the last two decades, sufficient knowledge and experience have been accumulated for further development of efficient models. Grover and Davenport (2001) emphasize that the whole success in using KM and HRM for competitive advantage implicates changes of important activities, processes, culture and behaviour.

### **3. Research methodology and hypothesis**

Different stages in organization lifecycle are related with different attributes of knowledge management, with the adequate activities of knowledge management (as related to the adequate stage of the lifecycle) may increase efficiency and consequently create competitive advantage for an organization (Hajdić i Dulčić, 2013; Alfrević, Hajdić i Rendulić, 2015). This is the theoretical underpinning for the following hypothesis.

**Hypothesis: The strategic integration of knowledge management is increased with the organizational progression through its lifecycle.**

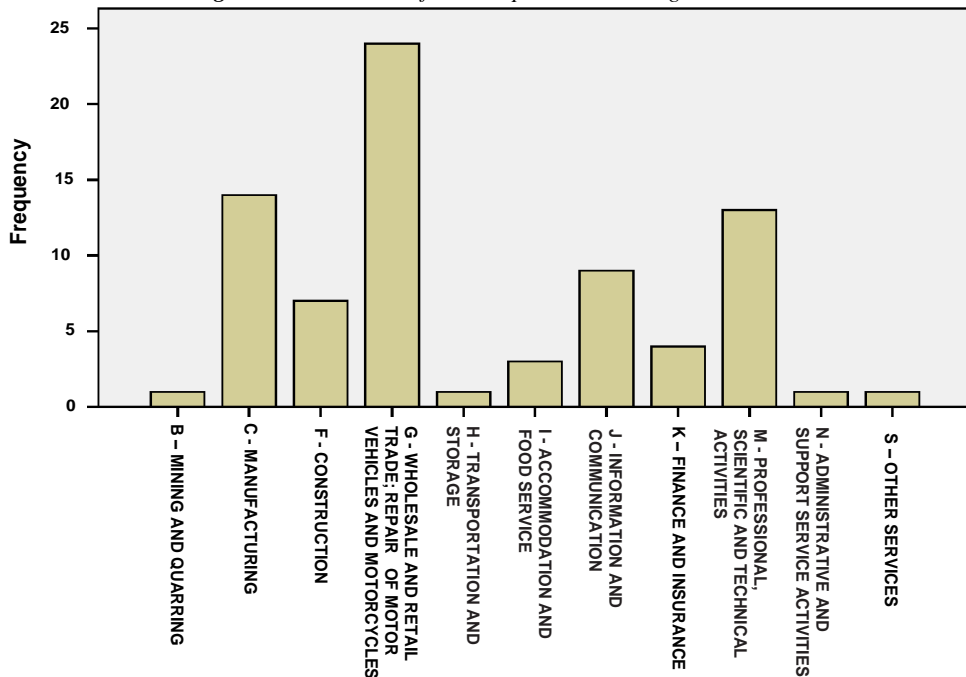
This hypothesis follows the empirical research and results, related to the strategic integration of HRM (Mabey et al., 1998; Gratton et al., 1999) and IT (Popovič et al., 2009; Garbin Praničević et al., 2010) and presumes that a similar relation may apply to the KM during companies' life cycle.

Empirical research was conducted on random sample of the population of the Croatian enterprises that create new value (in the past three years) at various life phases. For that purpose data bases Kompas Hrvatska 2014 and Poslovna.hr. were used. Questionnaires were sent to 926 large, medium and small companies. Addresses were collected from Kompas 2014. data base. Probabilistic sample for the research in Republic of Croatia contains 78 large, medium and small enterprises (responsivity 8,5%). Special questionnaire was designed for the purpose of collecting data. Collected data were processed by the computer using software packages for tables Microsoft Excel and statistic package SPSS for Windows.

#### 4. Results of empirical research

Figure 1. shows the distribution of the sample according to industries. The majority of enterprises belong to trade (24), manufacturing (14), scientific and technical services (13). There were no participants from agriculture, electric supply, water supply, waste management, real estate, cultural or recreational activities and health.

*Figure 1 Distribution of the companies according to business*

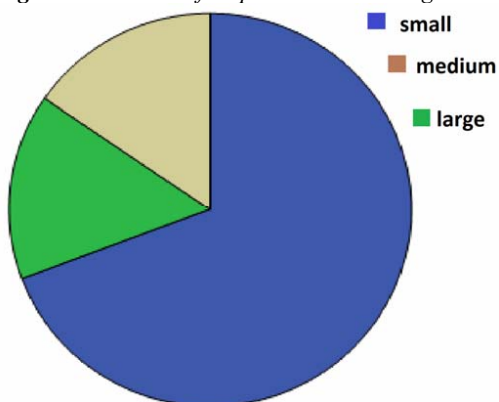


*Source: empirical research*

Figure 2. shows distribution of respondents, according to their number of employees: small (69%), medium (15,5%) and large (15,5%).



**Figure 2** Structure of respondents according to size



Source: empirical research

Methodology used to establish the lifecycle stage has already been presented in a previous study (Alfirević, Hajdić i Rendulić, 2015). Table 1. shows the empirical results.

**Table 1** Phase of the company's life cycle in the sample

	Frequency	%	Valid %	Cumulative%
Start-up	7	9,0	9,0	9,0
Development	10	12,8	12,8	21,8
Maturity	27	34,6	34,6	56,4
Decay/ rejuvenation	34	43,6	43,6	100,0
Total	78	100,0	100,0	

Source: empirical research

Table 2. shows results of the development of KM strategy, indicating that were only 38,5% managers satisfied with the way KM was formulated in their company.

**Table 2** Perception of KM practice being based on a clear strategy

	Frequency	%	Valid %	Cumulative%
Do not agree	13	16,7	16,7	16,7
Partially agree	14	17,9	17,9	34,6
Neutral	21	26,9	26,9	61,5
Agree	19	24,4	24,4	85,9
Agree entirely	11	14,1	14,1	100,0
Total	78	100,0	100,0	

Source: empirical research

Results indicate that, to a certain extent, lower level of KM strategic involvement is found, than expected. Almost 70% of the managers think that KM strategy was not clearly presented and understandable for employees (Table 3).

**Table 3** Satisfaction with the way KM strategy was presented to all employees

	Frequency	%	Valid %	Cumulative%
<b>Do not agree</b>	<b>20</b>	<b>25.6</b>	<b>25.6</b>	25.6
<b>Partially agree</b>	<b>13</b>	<b>16.7</b>	<b>16.7</b>	42.3
<b>Neutral</b>	<b>21</b>	<b>26.9</b>	<b>26.9</b>	<b>69.2</b>
Agree	16	20.5	20.5	89.7
Agree entirely	8	10.3	10.3	100.0
Total	78	100.0	100.0	

Source: empirical research

Level of KM development at strategic level was measured by involvement of the managers responsible into top management (Table 4), which shows satisfactory results (with a little bit more than 60% of responding companies, involving KM managers in top management).

**Table 4** KM managers' participation in top management

	Frequency	%	Valid %	Cumulative%
Do not agree	15	19.2	19.2	19.2
Partially agree	6	7.7	7.7	26.9
Neutral	10	12.8	12.8	39.7
<b>Agree</b>	<b>25</b>	<b>32.1</b>	<b>32.1</b>	71.8
<b>Agree entirely</b>	<b>22</b>	<b>28.2</b>	<b>28.2</b>	100.0
Total	78	100.0	100.0	

Source: empirical research

Involvement of KM managers into strategic decision-making was also analysed (Table 5), with a little bit more than half of those, being involved into formulation of strategy.

**Table 5** KM managers' involvement into strategy formulation

	Frequency	%	Valid %	Cumulative%
Do not agree	13	16.7	16.7	16.7
Partially agree	9	11.5	11.5	28.2
Neutral	15	19.2	19.2	47.4
<b>Agree</b>	<b>25</b>	<b>32.1</b>	<b>32.1</b>	79.5
<b>Agree entirely</b>	<b>16</b>	<b>20.5</b>	<b>20.5</b>	100.0
Total	78	100.0	100.0	

Source: empirical research

Inclusion of KM into mission or strategic goals of the company was also confirmed (Table 6).

**Table 6** Including KM into mission or strategic goals of the company

	Frequency	%	Valid %	Cumulative%
Do not agree	18	23.1	23.1	23.1
Partially agree	4	5.1	5.1	28.2
Neutral	15	19.2	19.2	47.4
<b>Agree</b>	<b>25</b>	<b>32.1</b>	<b>32.1</b>	79.5
<b>Agree entirely</b>	<b>16</b>	<b>20.5</b>	<b>20.5</b>	100.0
Total	78	100.0	100.0	

Source: empirical research

It is also interesting that KM implementation is, in most cases, derived from business strategy (Table 7).

**Table 7** *KM activities being derived from business strategy*

	Frequency	%	Valid %	Cumulative%
Do not agree	12	15.4	15.4	15.4
Partially agree	10	12.8	12.8	28.2
Neutral	17	21.8	21.8	50.0
Agree	25	32.1	32.1	82.1
Agree entirely	14	17.9	17.9	100.0
Total	78	100.0	100.0	

*Source: empirical research*

Construct of the strategic integration of KM involved four measures, previously described by Tables 6-7. All of those were measured on a standard Likert 5-stage scale. The construct had a mean value 3.27, with a high standard deviation of 1.27. That led to the presumption that its distribution might not display the homogeneity of variance, which was confirmed by Levene's test (Levene statistic = 2,985; df1 = 3; df2 = 74; Sig. = 0.037). This is why, for establishing differences of KM's strategic integration among companies in different lifecycle stages, Kruskal-Wallis nonparametric test was used (Table 8).

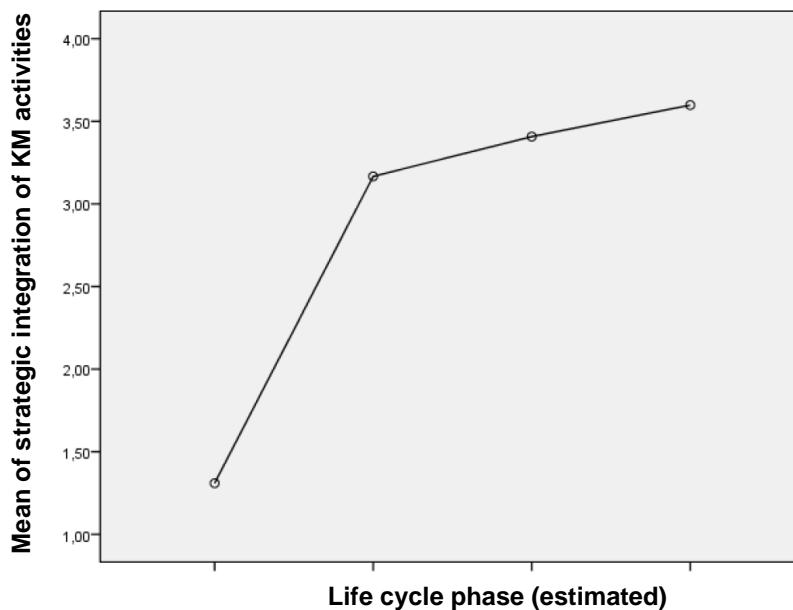
**Table 8** *The differences of KM construct values among companies at different life cycle phases (Kruskal-Wallis nonparametrical test)*

	Strategic integration of KM activities
Chi-Square	14,100
df	3
Asymp. Sig.	<b>.003</b>

*Source: empirical research*

With the Kruskal-Wallis test providing only the finding on statistical differences in strategic integration of KM, across companies in different stages of their lifecycles, interpretation of the hypothesis requires the graphical presentation of empirical results (see Figure 3). With the value of the construct, describing the empirical value of strategic KM integration, rising with the lifecycle stage, **the initial hypothesis has been confirmed.**

*Figure 3 Graphical interpretation of empirical results*



*Source: empirical research*

## 5. Conclusion

The results of empirical research indicate **increase of strategic integration of KM at Croatian companies with the passing stages of their lifecycle**, which corresponds with the theoretical assumptions. However, there are significant constrains, related to the economic crisis, present in the economy, as the research has been conducted. Future research tasks will certainly include replication in other countries in the region, and additional analysis of the intellectual capital, regarding its importance for understanding the whole complexity of knowledge management and its contribution to the performance.

## REFERENCES

- Alfirević, N.; Hajdić, M.; Rendulić, D. (2015). Upravljanje znanjem tijekom životnog ciklusa poduzeća: Inicijalna empirijska analiza u Republici Hrvatskoj. **Proceedings of 5th South-East European (SEE) meeting & scientific conference of management departments**, pp 50-59, Varaždin, Croatia
- Arrow, K.J. (1971), **Essays in the Theory of Risk Bearing**, Markham, Chicago (IL)
- Badamshina, K., Baker, G. (2002), **Knowledge Management**, Chapter 5, [www.sc.doe.gov](http://www.sc.doe.gov), (retrieved January 2015).
- Bahtijarević Šiber, F. (1997), **Strategijski menadžment i upravljanje ljudskim potencijalima**, Organizacija i menadžment, Zagreb
- Bergeron, B. (2003), **Essentials of Knowledge Management**, John Wiley & Sons, Inc., Hoboken, New Jersey, USA

Daft, R.L. (2010), **Organization Theory and Design**, 10th edition, South-Western Cengage Learning, Mason (OH)

Davenport T.H., Prusak L. (2000), **Working Knowledge: How Organizations Manage What They Know**, paperback edition, Harvard Business School Press: Boston, Mass, first published 1998.

De Long, D.W., Fahley, L. (2000), **Diagnosing cultural barriers to knowledge management**, The Academy of Management Executive, 14(4), 113-127.

Edmondson, A. (1999), **Psychological safety and learning behavior in work teams**, Administrative Science Quarterly, 44, 350-383.

Firestone, J.M., McElroy, M.W. (2003), **Key Issues in the New Knowledge Management**, Burlington, MA: KMCI Press/Butterworth Heinemann.

Grant, R.M. (1996), **Toward a Knowledge-Based Theory of the Firm**, Strategic Management Journal, vol.17

Gratton, L., Hope Hailey, V., Stiles, P., Truss, C. (1999), **Strategic Human Resource Management: Corporate Rhetoric and Human Reality**, Oxford: University

Grover V., Davenport T.H. (2001), **General perspectives on knowledge management: fostering a research agenda**, J Manage Inf Syst, 18(1), 5-21.

Hajdić, M., Dulčić, F. (2013), **Knowledge Management throughout Various Stages of a SME Life-Cycle**, Zbornik radova (Posebno izdanje: Zbornik II. inter- katedarskog skupa organizacije i menadžmenta), Ekonomski fakultet Sveučilišta u Mostaru, Mostar.

Liebowitz, J. (1999), **Key ingredients to the success of an organization's knowledge management strategy**, Knowledge and process Management, Vol. 6,(1), 37-40.

Mabey, C., Salaman, G., Storey J. (1998), **Human Resource Management: A Strategic Introduction**, Oxford: Blackwell Publishing

Norrgren, F., Schaller, J. (1999), **Leadership Style: Its Impact on Cross-Functional Product Development**, Journal of Product Innovation Management, 16(4), 377-384

North, K. (2008), **Upravljanje znanjem – vodenje poduzeća usmjereno prema znanju**, Naklada Slap, Jastrebarsko

Rupčić, N., Žic, M. (2012), **Upravljanje znanjem – suvremena sržna kompetencija**, Praktični menadžment,

Schneider, B. (1990), **The climate for service: An application of the climate construct**, u Schneider, B. (ur.), Organizational climate and culture (383-412), San Francisco: Jossey-Bass.

Taradi, J., Grošanić, N., Nikolić, V. (2012), **Model procesa upravljanja ljudskim resursima i znanjem - teorija i praksa**, Menadžment i sigurnost (1848-5251), (1; 108-123

Wiig K.M. (1997 a). **Knowledge management: where did it come from and where will it go?**, Expert Systems With Applications 13(1): 1-14.

Wiig, K.M. (1997 b): **Knowledge Management: An Introduction and Perspective**, The Journal of Knowledge Management, 1, 1, September, 6-14.

Wiig, K.M. (1997 c), **Integrating intellectual capital and knowledge management**, Long Range Planning,

**Irena Ištoka Otković, PhD., Assistant Professor**

Josip Juraj Strossmayer University of Osijek, Faculty of Civil Engineering

Drinska 16a, 31000 Osijek, Croatia

Phone: +385 31 274 377 Fax: +385 31 274 444

E-mail address: iirena@fpos.hr

**Silvija Ručević, PhD., Assistant Professor**

Josip Juraj Strossmayer University of Osijek, Faculty of Humanities and Social Sciences

Lorenza Jägera 9, 31000 Osijek, Croatia

Phone: +385 31 494 650 Fax: +385 31 212 514

E-mail address: srucevic@ffos.hr

**Tijana Borovac, PhD.**

Josip Juraj Strossmayer University of Osijek, Faculty of Education

Cara Hadrijana 10, 31000 Osijek, Croatia

Phone: +385 321 731

E-mail address: tborovac@fozos.hr

**PEDESTRIAN SAFETY OF CHILDREN IN AN URBAN  
TRANSPORTATION NETWORK – RESEARCH REVIEW**

**SIGURNOST PJEŠAČKOG KRETANJA DJECE U URBANOJ PROMETNOJ  
MREŽI – PREGLED ISTRAŽIVANJA**

**ABSTRACT**

*Children are often victims of traffic accidents in our streets and roads, and there is a constant lack of a deeper exploration of the causes and a systematic social prevention of unsafe traffic practises regarding the safety of the most vulnerable traffic participants. According to the data of the World Health Organization, traffic accidents are the leading cause of death for adolescents, and the second-ranking for the population of children between the ages of 5 and 14. According to the mean standardized mortality rate of children, Croatia is among those EU countries that need to put an additional work in prevention of traffic accidents, especially in urban environments. This paper presents a review of previous studies and positive experiences in implementing preventive measures for the traffic safety of children. In addition to educational programs that have given positive results, this paper displays the performance evaluation of engineering measures aimed at road infrastructure. The best results are achieved by combining various systematic measures and a multidisciplinary approach.*

*Civil Engineering Faculty in Osijek is leading the project called Microsimulation Modelling of Pedestrian Movement of Children with the aim of the improvement of pedestrian safety of children in the transportation network of the city of Osijek. The subject of the project is microsimulation modelling of pedestrian movement of children, with special emphasis on children between the ages of 5 and 10. The indicators of the risky behaviour will be analysed in the real traffic environment and the reaction time of children and adult traffic participants will be measured and compared. The gathered results will be the starting point for the analysis of traffic safety parameters of the transportation network in the vicinity of the selected schools and kindergartens.*

**Key words:** *pedestrian safety of children, traffic accidents, urban traffic safety, reaction time*

## SAŽETAK

Djeca su žrtve prometnih nesreća na našim cestama, a kontinuirano izostaje istraživanje dubljih uzroka i sustavna društvena prevencija prometne nesigurnosti najranjivijih prometnih korisnika. Prema podacima SZO prometne nezgode su vodeći uzrok smrtnosti adolescenata, a drugi po rangu uzrok smrti dječje populacije od 5 do 14 godina. Prema srednjoj standardiziranoj stopi smrtnosti dječje populacije, Hrvatska se nalazi među zemljama EU koje moraju dodatno poraditi na prevenciji prometnih nezgoda, osobito u urbanom okruženju. U okviru ovog rada napravljen je pregled dosadašnjih istraživanja i pozitivnih iskustava u provođenju mjera prevencije prometne nesigurnosti dječje populacije. Osim odgojno-obrazovnih programa koji su dali pozitivne rezultate, dat je prikaz ocjene uspješnosti inženjerskih mjera usmjerenih na cestovnu infrastrukturu. Najbolji rezultati postižu se kombinacijom različitih sustavnih mjera i multidisciplinarnim pristupom.

Građevinski fakultet u Osijeku nositelj je projekta Mikrosimulacijsko modeliranje pješačkog kretanja djece sa ciljem povećanja sigurnosti pješačkog kretanja djece u prometnoj mreži grada Osijeka. Predmet projekta je mikrosimulacijsko modeliranje pješačkog kretanja djece, sa posebnim naglaskom na djecu u dobi od 5-10 godina. Analizirat će se pokazatelji rizičnog ponašanja u realnom prometnom okruženju i mjeriti i usporediti vrijeme reakcije djece i odraslih prometnih korisnika. Dobiveni rezultati bit će polazište za analizu sigurnosnih prometnih parametara cestovne mreže u okolini odabranih škola i dječjih vrtića.

**Ključne riječi:** pješačka sigurnost djece, prometne nezgode, urbana prometna sigurnost, vrijeme reakcije

*"...Mankind owes to the child the best it has to give."* [1]

### 1. Introduction

The improvement of traffic safety, especially in urban environments, is constantly in the focus of scientific and professional community. The European Parliament has passed the resolution on European Road Safety in September 2011 for the period from 2011 to 2020, which coincides with the global campaign for the Decade of Action for Road Safety. Within the EU, the ambitious goal of reducing injuries in road transport by 40% by 2020, is being seriously considered, and that coincides with the global concept of "Vision Zero"<sup>1</sup> as a long-term goal [2]. Social action is aimed at reducing the severity of consequences of traffic accidents through a series of measures whose efficiency is assessed via long term monitoring. Legislation, regulations and recommendations for the design of the transport infrastructure are focused on the adult traffic users, and that is one of the parameters that have a negative impact on children in traffic, which leads to a bigger unnecessary danger for them. World Health Organization estimates that, annually, about 10 million children worldwide experience some form of a traffic accident, and statistics show that 250,000 children annually die in traffic [4]. According to statistics [5] for 2014, 4.2% fatalities and 9.1% severely damaged of the total number of casualties in traffic in Croatia are children under the age of 17. The data analysis shows that children are equally frequent victims of traffic accidents both as pedestrians and as passengers.

---

<sup>1</sup> Vision Zero is a multi-national road traffic safety project that aims to achieve a highway system with no fatalities or serious injuries in road traffic. It started in Sweden and was approved by their Parliament in October 1997. A core principle of the vision is that 'Life and health can never be exchanged for other benefits within the society' [3].



## **2. Pedestrian safety of children – research review**

### **2.1. Vehicle-pedestrian collision**

The most common causes of death of children in traffic are the accidents in which children are involved as pedestrians, cyclists and passengers in vehicles. The selection of the mode of travel for children (pedestrian, cyclist or passenger) is primarily motivated by the distance of the school and the parental assessment of the road safety [6,7]. Several models were developed to determine the choice of mode and the escorting person for children's travel to and from school. Empirical results indicate that the characteristics of a child, such as age, gender and ethnicity, and employment and work flexibility characteristics of the parents have strong impacts on the decisions about the choice of the mode [7]. Girls are less likely to walk than boys, and this difference is the most prominent at younger ages and in suburban areas [6]. The results also show that the impact of the utilization of mothers' car on the children travel mode shares is more apparent than fathers' [8].

The objective of the research [9], conducted in Montreal, Canada, was to analyse geographic distribution of pedestrian crash sites in an urban area and it shows considerable dispersion of them. Although 63% of the total number of pedestrians are injured at intersections, only 1% of the intersections may be declared as pedestrian "black spots" (with 8 or more victims in the monitored period of 5 years). Pedestrian crossing behaviours and pedestrian-vehicle interactions are influenced by various factors, and they are the subject of continuing research. Some studies conducted experiments to obtain microscopic variables relating to pedestrian behaviour. Variables for pedestrian model development [10] are divided into four groups: stimuli experimental variables (desired walking direction-destinations, aggressiveness, bottlenecks), context variables (free speed of individual pedestrian, age, grouping behaviour, gender), response microscopic variables (walking speeds, walking directions, passing behaviour, group formation) and macroscopic variables (density, space-mean-speed, intensity, desired speed distribution, time-mean-speed). Several studies used a virtual reality system to investigate crossing behaviour of children [10] and young adults [10]. One of the studies has had participants equally distributed in the four age groups and the youngest age group was found to make the most unsafe crossings. Some studies reported use of pedestrian simulators to study behaviour of subjects (especially young adults) crossing the street with potential distraction due to multimedia devices. The participant group consisted of 138 college students. The participants were randomly assigned to three distinct groups with distraction: talking on phone, texting, listening, with a fourth control group without any of these distractions. It was observed that the groups with distractions have prolonged reaction time, as well as the time required to complete the crossing manoeuvre, slower detecting arrival of the next vehicle in the crosswalk, reduced left/right observation and looking away, and missed crossing opportunities [11].

### **2.2. Analysis of the effectiveness of engineering measures**

The traditional approach to improving child road safety in an urban environment has mainly been concerned with encouraging children to utilize the street environment in a more responsible and safe manner [10]. This approach provides limited results in the prevention of accidents. The characteristics of traffic flow and speed, socio-demographic variables, road design features and pedestrians observations of safety – they all affect the pedestrian safety. The intersection, perceived as unsafe by traffic participants, is positively correlated with a larger number of errors and conflict situations, which ultimately lead to a larger number of traffic accidents [12]. The analysis indicated that the frequency of accidents was strongly correlated with traffic volume, and consequences of accidents correlated with vehicle speed. However, it is clear, that strategies which focus on a single objective, such as a traffic reduction, are unlikely to be entirely effective. The optimal approach will draw on a combination of measures aimed at different variables, such as social factors, traffic and

physical environment. For design traffic safety strategy to be most effective, a much clearer understanding is required regarding the way in which different factors influence child casualty numbers [13]. The literature [14] gives overview and analysis of traffic engineering measures designed to reduce risk and severity of pedestrian injuries. Engineering modifications can generally be classified into four broad categories: reductions of vehicle speeds, separation of pedestrians from vehicles by time or by space and measures that increase the visibility and conspicuity of pedestrians. Engineering measures designed to manage vehicle speeds include an analysis of the effects of the introduction of roundabouts, traffic calming and multiway stop-sign control. Monitoring the number of pedestrian-vehicle crashes before and after provides an insight into the effectiveness of the measures. On average, the use of single-line roundabouts decreased pedestrian-vehicle crashes by 73% [14]. Engineering measures designed to separate pedestrians and vehicles by time include exclusive pedestrian signal phase [14], early release signal timing, also known as leading pedestrian interval, installation of traffic signals [15], traffic signal change interval timing, pedestrian prompting devices, automatic pedestrian detection for display of walk signal, and in-pavement flashing lights to warn drivers when pedestrians are present. Engineering measures designed to separate pedestrians and vehicles by space include pedestrian overpasses, advance stop lines, pedestrian barriers and fences, sidewalks, and refuge islands [16]. Pedestrian overpasses decreased the number of pedestrian-vehicle crashes by 91% within 100 m of the structures and by 85% within 200m [14]. Engineering measures designed to increase visibility of pedestrians encompass the application of increased intensity of roadway lighting (number of night-time pedestrian crashes decreased by 59%), installation of internally illuminated warning signs (number of night-time pedestrian crashes at the experimental sites decreased by 57%), bus stop relocation, diagonal parking and crosswalk markings [14].

### **2.3. Microsimulation of pedestrian movements**

The use of microsimulation models in a pedestrian traffic analysis became a widely accepted methodology because it allows for the introduction of a much greater number and variety of influencing factors and offers an opportunity to evaluate hypothetical pedestrian situations. The microsimulation models encompass variable behaviours of traffic users, and the reality of the modelling results depends on the initial selection of a model and the efficiency of the calibration process. The more and more attention is being paid to the modelling of vehicle-pedestrian collision [10], thus it is necessary to have real input parameters of the behaviour of, both, the drivers and the pedestrians. The results of microsimulations show that the manner of shaping the areas of conflict (pedestrian crossings) significantly affects the functional and safety features of a particular network segment [16]. There is a significant scientific activity in the research of pedestrian movement under normal conditions, a movement of different pedestrian density [17,18], as well as the movement in emergency conditions and evacuations [19]. A special attention is given to the traffic safety of elderly pedestrians [17], but the results of microsimulations of pedestrian movement of children are not available.

### **3. Cognitive development and social expectations**

Perception and processing of various traffic situations is under the influence of a vast number of factors, hence reactions of traffic users are not entirely predictable. The reaction time is influenced by a predictability of a situation and a reaction time necessary to avoid collision [21], as well as the age, sex and cognitive abilities [22], distractions due to phone calls and conversations with passengers [23], lack of sleep, travel distance and driving experience [24]. According to some studies, the impact of individual characteristics of users (aggressiveness, driving culture, tolerance) and various factors which have a short term effect (alcohol, fatigue, drugs) and a long term effect

(experience, age, chronic alcoholism, drug abuse) on safe traffic behaviour [25] are more significant than the impact of the road and the wider environment [26]. Studies of behaviour of children in a traffic environment show that there is a substantial difference in perception of risks between the children belonging to different age groups [27]. A number of studies suggest that children's development of different cognitive skills, such as attention to the relevant stimuli in traffic situations [28], selective attention/attention switching [29,30], and decision-making is related to increased pedestrian safety and that relevant skills improve as children get older [31,32,33]. Those processes also overlap with other developing skills, such as perceptual abilities, including visual search skills and aural perception [34,35,36].

According to the research results, the parents have exceedingly high expectations of preschool and early school age children (the research covered the children under the age of 10) and less than 20% of surveyed parents knows that the cognitive abilities of children in this developmental stage are such that they cannot fully process complex traffic situations and assess the risks [37,38]. The reaction time is a parameter that participates in the calculation of a series of functional and safety characteristics of the network, and it is commonly adopted from the literature. In a potential conflict between a vehicles and a pedestrian, the reaction times of both, the driver and the pedestrian, influence the final outcome of the conflict. The reaction time of children is significantly affected by age, sex, control of inhibitors, parental supervision [39] and developmental difficulties, such as hyperactivity [40].

The project called *Microsimulation Modelling of Pedestrian Movement of Children* has the aim to improve the pedestrian safety of children between the ages of 5 and 10, in the transportation network of the city of Osijek. The indicators of the risky behaviour will be analysed in the real traffic environment and the reaction time of children and adult traffic participants will be measured in the laboratory and in real traffic conditions. Database is still being formed, but according to current indicators the biggest cognitive leap, given the measured reaction time, is between preschool children (5, 6, 7 years of age) and the first graders (7, 8 years of age). The leap is almost the same as the difference between the reaction time of the overall target group (children from 5 to 10 years of age) and the control group (adults). There is also a substantial cognitive leap between the first graders (7, 8 years of age) and the research subjects that go to the second and the third grade (8, 9, 10 years of age). In this stage of the study, a significant difference between the subjects in the ages from 8 to 10 has not been observed.

The UN Convention on the Rights of Children is of key relevance for road safety. Children are vulnerable in road traffic for many reasons which can be categorised in three main groups:

- The causes lie within the child due to a lack of necessary skills to interact safely in traffic
- The causes lie within other road users (especially car drivers, due to a lack of special care and consideration).
- The causes lie within traffic planning and traffic regulation due to a lack of child-friendly infrastructures, regulations and assistance for children

Being mobile, is a basic precondition for steps in the child's development. Mobility, however, can be seen as a two-edged sword: on the one hand it helps children to explore the world; on the other hand it exposes them to risks. It would be wrong, however, to reduce children's independent mobility to diminish their risk of dying in an accident. On the contrary measures have to be taken to promote autonomous mobility of children by providing a child-friendly traffic environment. Children do die in road accidents as passive and active road users. This means there are still measures necessary to decrease children's risks. Taking measures implies to know as much about the target group as possible. [41].

#### 4. Discussion and Conclusion

In Croatia, we more often deal with the consequences of accidents through the health care system than through their primary prevention [42]. Global experiences show that the best results in prevention of traffic accidents are achieved by implementation of strategies which combine a multidisciplinary approach and measures aimed at multiple influential factors. This paper presents a brief overview of results of monitoring the effectiveness of particular measures and current studies of the pedestrian safety of children. This review of experiences will serve as a basis for the exploration of possible measures for increasing the safety of children, which will be analysed using microsimulation traffic modelling at specific locations within the urban network of the city of Osijek. The project called *Microsimulation Modelling of Pedestrian Movement of Children* has gathered a multidisciplinary team comprised of psychologists, educators, construction engineers, and traffic police and specialised services of the city of Osijek, with the primary goal of increasing the safety of children in the urban traffic network of Osijek.

#### REFERENCES

- Declaration of the Rights of the Child, UN, 1959, <http://www.unicef.org/malaysia/1959-Declaration-of-the-Rights-of-the-Child.pdf>, April 4<sup>th</sup> 2016
- Resolution on European Road Safety 2011-2020 - First milestones towards an injury strategy, 2013 <http://www.europarl.europa.eu/sides/getDoc.do?pubRef=-//EP//NONSGML+MOTION+B7-2013-0318+0+DOC+PDF+V0//HR>, April 4<sup>th</sup> 2016
- Whitelegg, J., Haq, G.: *Vision Zero: Adopting a Target of Zero for Road Traffic Fatalities and Serious Injuries*, Report of Stockholm Environment Institute, 2006
- World report on child injury prevention. Geneva: World Health Organization; 2008
- [https://books.google.hr/books?hl=hr&lr=&id=UeXwoNh8sbwC&oi=fnd&pg=PR7&dq=World+report+on+child+injury+prevention.&ots=hG3xVUes\\_N&sig=X4XGbz-y3EjAf1SvHSpW3Re0i0M&redir\\_esc=y#v=onepage&q&f=true](https://books.google.hr/books?hl=hr&lr=&id=UeXwoNh8sbwC&oi=fnd&pg=PR7&dq=World+report+on+child+injury+prevention.&ots=hG3xVUes_N&sig=X4XGbz-y3EjAf1SvHSpW3Re0i0M&redir_esc=y#v=onepage&q&f=true) April 4<sup>th</sup> 2016
- Ministarstvo unutarnjih poslova Republike Hrvatske: *Bilten o sigurnosti cestovnog prometa 2014*, Zagreb, 2015.
- McDonald, N. C. (2008): *Children's mode choice for the school trip: the role of distance and school location in walking to school*, Transportation, Vol. 35, pp.23–35, DOI 10.1007/s11116-007-9135-7
- Susilo, Y. O., Liu, C. (2016): *The influence of parents' travel patterns, perceptions and residential self-selectivity to their children travel mode shares*, Vol. 43 (2), pp. 357-378, doi:10.1007/s11116-015-9579-0
- Yarlagadda, A. K., Srinivasan, S. (2008): *Modelling children's school travel mode and parental escort decisions*, Transportation, Vol.35, pp. 201–218, DOI 10.1007/s11116-007-9144-6
- Morency, P., Cloutier, M.S. (2006): *From targeted "black spots" to area-wide pedestrian safety*, Injury Prevention, Vol.12, pp.360–364. doi: 10.1136/ip.2006.013326
- Mamidipalli, S.V., Sisiopiku, V. P., Schroeder, B., Elefteriadou, L. (2015): *A Review of Analysis Techniques and Data Collection Methods for Modelling Pedestrian Crossing Behaviors*, Journal of Multidisciplinary Engineering Science and Technology, Vol. 2 (2), pp.225-232

- Schwebel, D.C., Stavrinou, D., Byington, K.W., Davis, T., O'Neal, E.E., de Jong, D. (2012): *Distraction and pedestrian safety: How talking on the phone, texting, and listening to music impact crossing the street*, Accident Analysis and Prevention, 45, pp. 266-271
- Ištoka Otković, I., Krstić, H., Zagvozda, M., (2013): *The Comparison between the Risk Perception of Drivers and Statistic Indicators of Traffic Safety in the Analysis of Effects of Reconstruction of Selected Urban Intersections*, In on-line Proceedings 26<sup>th</sup> ICTCT Workshop in Maribor, October 24<sup>th</sup> & 25<sup>th</sup> 2013, Maribor, Slovenia, <http://www.ictct.org/index2.php>
- Petch, R.O., Henson, R.R. (2000): *Child road safety in the urban environment*, Journal of Transport Geography, Vol. 8(3), pp.197-211
- Retting, R. A, Ferguson, S. A., McCartt, A. T. (2003): *A Review of Evidence-Based Traffic Engineering Measures Designed to Reduce Pedestrian-Motor Vehicle Crashes*, American Journal of Public Health, Vol 93 (9), pp.1456-1463
- Rothman, L., Howard, A.W., Camden, A., Macarthur, C. (2012): *Pedestrian crossing location influences injury severity in urban areas*, Injury Prevention Vol.18, pp.365–370 doi:10.1136/injuryprev-2011-040246
- Fi, I., Kovács Igazvölgyi, Z., (2014): *Travel Time Delay at Pedestrian Crossings Based on Microsimulations*, Periodica polytechnica, Civil Engineering, Vol.58 (1), pp.47–53, doi: 10.3311/PPci.7406
- Galiza, R. J., Ferreira, L., and Charles, P. (2010): *Apples and oranges: Exploring the effects of composition on pedestrian flow*, In: Australasian Transport Research Forum 2010 Proceedings, Canberra, ACT, Australia, 29 September-1 October 2010.
- Vizzari, G., Manentiand,L., Crociani, L. (2013): *Adaptive pedestrian behaviour for the preservation of group cohesion*, Complex Adaptive Systems Modelling 2013, pp.1-7
- Helbing, D., Buzna, L., Johansson, A., Werner, T. (2005): *Self-Organized Pedestrian Crowd Dynamics: Experiments, Simulations, and Design Solutions*, Transportation Science Vol 39(1), pp. 1–24
- Gorrie, C. A., Brown, J., Waitea, P. M.E. (2008): *Crash characteristics of older pedestrian fatalities: Dementia pathology may be related to 'at risk' traffic situations*, Accident Analysis & Prevention Vol.40(3), pp.912-919, doi:10.1016/j.aap.2007.10.006
- Stańczyk, T. L., Jurecki, R., Jaśkiewicz, M., Walczak, S., Janczur, R. (2011): *Researches on the reaction of a pedestrian stepping into the road from the right side from behind and an obstacle realized on the track*, Journal of KONES Powertrain and Transport, Vol. 18 (1), pp. 615-622
- Summala, H., (2000): *Brake Reaction Times and Driver Behavior Analysis*, Transportation human factors, Vol.2(3), pp.217–226
- Consiglio, W., Driscoll, P., Witte, M., Berg, W. P. (2003): *Effect of cellular telephone conversations and other potential interference on reaction time in a braking response*, Accident Analysis and Prevention 35, pp. 495–500, doi:10.1016/S0001-4575(02)00027-1
- Philip, P., Taillard, J., Quera-Salva, M. A., Bioulac, B., Kerstedt, T. A. (1999): *Simple reaction time, duration of driving and sleep deprivation in young versus old automobile drivers*, Journal of Sleep Research Vol. 8 (1), pp.9-14
- Petridou, E., Moustaki, M. (2000): *Human Factors in the Causation of Road Traffic Crashes*, European Journal of Epidemiology, Vol. 16 (9), pp. 819-826

Moudon, A. V., Lin, L., Jiao, J., Hurvitz, P., Reeves, P. (2011): *The Risk of Pedestrian Injury and Fatality in Collisions with Motor Vehicles, a Social Ecological Study of State Routes and City Streets in King County, Washington*. Accident; Analysis and Prevention Vol.43(1) pp.11–24 doi:10.1016/j.aap.2009.12.008

Hillier, L.M., Morrongiello, B.A. (1998): *Age and Gender Differences in School-Age Children's Appraisals of Injury Risk*, Journal of Pediatric Psychology, Vol. 23 (4), pp. 229-23

Foot H, Tolmie A, Thomson J, McLaren B, Whelan K. (1999) *Recognizing the hazards*, Psychologist, Vol 12(), pp. 400–402.

Dunbar, G., Hill, R., Lewis, V. (2001). *Children's attentional skills and road behavior*, Journal of Experimental Psychology: Applied, Vol. 7 (3), pp. 227–234. <http://dx.doi.org/10.1037/1076-898x.7.3.227>

Barton B. (2006). *Integrating selective attention into developmental pedestrian safety research*, Canadian Psychology Vol. 47(3), pp. 203–210. <http://dx.doi.org/10.1037/cp2006010>  
Demetre, J. D (1997).

*Applying developmental psychology to children's road safety: Problems and prospects*. Journal of Applied Developmental Psychology Vol.18(2), pp. 263–270. [http://dx.doi.org/10.1016/s0193-3973\(97\)90040-x](http://dx.doi.org/10.1016/s0193-3973(97)90040-x)

Connelly, M. J., Conaglen, H. M., Parsonson, B. S., Isler, R. B. (1998). *Child pedestrians' crossing gap thresholds*. Accidents Analysis and Prevention, Vol.30(4), pp. 443–453. [http://dx.doi.org/10.1016/s0001-4575\(97\)00109-7](http://dx.doi.org/10.1016/s0001-4575(97)00109-7)

Pitcairn, T. K., Edlmann, T. (2000). *Individual differences in road crossing ability in young children and adults*. British Journal of Psychology, Vol. 91(3), pp. 391–410. <http://dx.doi.org/10.1348/000712600161899>

Schwebel, D.C., Davis, A. L., O'Neal, E. E. (2012). Child Pedestrian Injury: A Review of Behavioral Risks and Preventive Strategies. American Journal of Lifestyle Medicine, Vol. 6(4), pp. 292–302. <http://dx.doi.org/10.1177/0885066611404876>

Whitebread, D., Neilson, K. (2000). *The contribution of visual search strategies to the development of pedestrian skills by 4-11 year-old children*. British Journal of Educational Psychology, Vol. 70(4), pp. 539-557. <http://dx.doi.org/10.1348/000709900158290>

Pfeffer, K., Barnecutt, P. (1996). *Children's auditory perception of movement of traffic sounds*. *Child: Care, Health and Development*, Vol. 22(2), pp. 129–137. <http://dx.doi.org/10.1111/j.1365-2214.1996.tb00780.x>

Rivara, F.P., Bergman, A.B., Drake, C. (1989): *Parental attitudes and practices toward children as pedestrians*, Pediatrics Vol. 84, pp.1017–1021.

Gielen, A.C., DeFrancesco, S., Bishai, D. (2004): *Child Pedestrians: the Role of Parental Beliefs and Practices in Promoting Safe Walking in Urban Neighborhoods*, Journal of Urban Health: Bulletin of the New York Academy of Medicine, Vol. 81 (4), pp.545-555

Barton, B. K., Schwebel, D. C. (2007): *The Roles of Age, Gender, Inhibitory Control, and Parental Supervision in Children's Pedestrian Safety*, Journal of Pediatric Psychology 32(5) pp. 517–526, doi:10.1093/jpepsy/jsm014

Fischer, M., Barkley, R. A., Smallish, L., Fletcher, K. (2007): *Hyperactive children as young adults: Driving abilities, safe driving behavior, and adverse driving outcomes*, Accident Analysis and Prevention Vol.39 (1), pp. 94–105, DOI: 10.1016/j.aap.2006.06.008

DaCoTA (2012): *Children in road traffic*, Deliverable 4.8.c of the EC FP7 project DaCoTA

Mujkić, A., Gereš, N., Rodi, U., Ivičević Uhernik, A. (2015): *Nesreće u djece - breme 21. stoljeća*, Paediatrica Croatica Vol.59 (1), pp. 141-144

**Krešimir Ižaković, prof., senior lecturer**

Faculty of Agriculture in Osijek

Ulica kralja Petra Svačića 1d

31000 Osijek

kizakovic@pfos.hr

**Branko Jovanovac, prof.**

School of applied arts and design Osijek

Krbavska ulica bb

31000 Osijek

Phone: 098-174-6911

bjovanovac@gmail.com

**Daria Župan, prof., lecturer**

Faculty of Teacher Education in Osijek

Ulica cara Hadrijana 10

31000 Osijek

dzupan@foozos.hr

## **INFLUENCE OF THE FREQUENCY OF PHYSICAL ACTIVITIES ON ANTHROPOMETRIC CHARACTERISTICS OF MALE AND FEMALE STUDENTS AT THE FACULTY OF AGRICULTURE IN OSIJEK**

### **UTJECAJ UČESTALOSTI TJELESNIH AKTIVNOSTI NA ANTROPOMETRIJSKA OBILJEŽJA STUDENATA I STUDENTICA POLJOPRIVREDNOG FAKULTETA U OSIJEKU**

#### **ABSTRACT**

*The aim of this study was to establish the difference between male and female students who attended classes of "Physical Education" (P.E.) regularly and those who were engaged in an additional physical activity.*

*Data of 154 male and 155 female students from the Faculty of Agriculture of University of Josip Juraj Strossmayer in Osijek were used. The students were measured by anthropometer (body height) and Omron scale type 550 (body mass index – BMI, % body fat (BM), % muscular mass (MM), % visceral mass (VM)). For the collection of data on additional physical activities a questionnaire was employed.*

*According to the collected data, students were grouped into three subgroups (subgroup 1 - students who were not engaged in any additional physical activity at all; subgroup 2 – students who were engaged in an additional physical activity once to twice a week; subgroup 3 – students who were engaged in an additional physical activity three to four times a week*

*Regarding male students, a simple variance analysis showed a statistically significant difference only in MM variable between the first and second subgroup, whereas no significant differences in any other variable were established between any subgroups.*

*Whereas, in female students a simple variance analysis showed a statistically significant difference between most of the subgroups in all variables. Statistically significant difference was determined in BMI variable between subgroup 1 and 3, in MM variable between first and second and first and third subgroup. More statistically significant difference was evident in BF variable between first*



and third subgroup and finally in VM variable statistically significant difference was also determined between first and third subgroup.

**Key words:** anthropometry, physical activity, BMI, %MM, %BF.

## SAŽETAK

Cilj istraživanja je bio utvrditi postojanje razlike između studenata/studentica koji pohađaju samo redovnu nastavu Tjelesne i zdravstvene kulture (TZK) i studenata/studentica koji osim redovne nastave imaju dodatnu tjelesnu aktivnost.

Uzorak ispitanika obuhvatio je ukupno 154 studenata i 155 studentica Poljoprivrednog fakulteta u Osijeku. Ispitanici su izmjereni antropometrom (tjelesna visina) i Omron vagom tip 550 (indeks tjelesne mase (ITM), % balastne mase (BM), % mišićne mase (MM), % visceralne masti (VM)). Podaci o dodatnoj tjelesnoj aktivnosti (izvan redovne nastave TZK) prikupljeni su upitnikom. Ispitanici su prema podacima iz upitnika svrstani u tri subgrupa (subgrupu 1 su činili ispitanici koji osim redovne nastave neprakticiraju dodatnu tjelesnu aktivnost, subgrupu 2 ispitanici koji jednom do dva puta tjedno prakticiraju dodatnu tjelesnu aktivnost, subgrupu 3 ispitanici koji tri do četiri puta tjedno prakticiraju dodatnu tjelesnu aktivnost. Što se tiče muških studenata, jednostavna analiza varijance pokazala je statistički značajnu razliku samo u MM varijabli između prve i druge podskupine, a nisu uspostavljene značajne razlike ostalih varijabli između ijedne podskupine. Međutim, kodstudentica jednostavna analiza varijance pokazala je statistički značajnu razliku između većine podskupina u svim varijablama. Statistički značajna razlika utvrđena je u BMI varijabli između podskupina 1. i 3., u MM varijabli između prve i druge te prve i treće podskupine. Statistički značajna razlika je bila očita u BF varijabli između prve i treće podskupine i na kraju u VM varijabli statistički značajna razlika utvrđena je između prve i treće podskupine.

**Ključne riječi:** antropometrija, tjelesna aktivnost, ITM, %MM, %BM.

## 1. Introduction

The modern way of life and the development and improvement of technological instruments as well as their usage, led to the fact that man became *homosedens*. In the last fifty years this way of life in which a large part of the daily activities are being carried out in sitting position, creates a particular problem to maintain health of mankind. According to estimates of the World Health Organization (WHO), 3.2 million deaths a year are directly related to insufficient levels of physical activity (WHO, 2012.).

According to the definition of the World Health Organization ‘health is not merely the absence of disease and infirmity but also a complete physical, mental and social well-being’ (WHO (1946./1948.)), we are becoming aware of the seriousness of the problems facing a modern man. For the same reason, physical activity becomes an integral part of strategies that are being developed and implemented worldwide for improving the health of populations. With this in mind, there is an on growing need for monitoring physical activity and body composition.

The most popular and easiest component for that is body fat percentage and subcutaneous body fat. It is known that this anthropometric characteristic is directly subjected to biggest changes using diet regimens and physical activity. Generally accepted and officially determined measures to evaluate a man’s nutritional status is Body mass index (BMI) which indicates a possible serious health risks because obesity is world’s leading cause of nowadays fatal diseases (WHO, 2016).

In the last four decades, many institutions adopted various recommendations for physical activity, but today it is almost universally accepted that to achieve health benefits, in adults, that requires 150

minutes a week of aerobic physical activity of moderate intensity or 75 minutes of aerobic activity per week of high intensity or a combination of physical activity of moderate and high intensity in which the total energy consumption must be 500-1000 minute metabolic equivalents per week (Centers for Disease Control and Prevention (CDC), and WHO, 2012).

Previous studies conducted in primary and high schools and specially higher education institutions in the Republic of Croatia as well as the general population indicate the apparent prevalence of insufficient activity in the population of young people from 15 to 29 years of age with even 70% of the physically inactive and this linearly increases with age to 65 years of age up to almost 60% of the physically inactive population of the Croatia (Jurakić and Heimer, 2012). When we talk about the system of organized and professionally guided physical exercise at the Universities of Croatia we must emphasize that there are no specific standards and criteria that includes students in a variety of sports and recreational activities (Government of Republic of Croatia, 2006). This choice is on the students' free will whether or not to practice any physical activity in their free time.

Although regular recreational physical activity contributes to the prevention of certain diseases, improving the health and quality of life it is not yet a significant portion of the targeted strategy of the student population (Andrijašević, Ciliga and Jurakić, 2009).

Physical Education (PE) programme in higher education in the Republic of Croatia is divided into several curricula which is a common feature choice of one or more of kinesiology activities during the academic year. Each faculty has autonomy in the choice of content to its financial means and is performed in the fund of 90 minutes of class per week. According to the above, it is evident that the PE collegium in higher education deviates from the recommendation of the necessary amount of physical activity for health gain.

Consequently, the aim of this study was to investigate whether there is a difference in the anthropometric characteristics of students of the Faculty of Agriculture who exclusively attend regular PE classes regarding to weekly frequency of those who also practice physical activity in their free time.

## **2. Materials and methodology**

### **2.1. Sample**

The sample included a total of  $N = 309$  students of first and second year of the Faculty of Agriculture University of Osijek aged 18-24 years, of which a total of  $N_1 = 154$  male and  $N_2 = 155$  female students. Data on additional physical activity (extracurricular PE classes) which are being attended by students, are collected by a questionnaire. For the purposes of this survey, the respondents were asked to indicate how many times a week do they practice any additional physical activity regardless of the type of such activities. All subjects were measured by anthropometer (body height) and Omron Scale type 550 (body mass index BMI, percentage of body fat mass BM, MM percentage of muscle mass and percentage of visceral mass VM).

According to the data male and female students are classified due to the frequency of additional physical activity in different three subgroups. The first group "G0" were students attending exclusively regular PE classes. The second group "G1" consisted of respondents who in addition to regular PE classes practice once or twice a week an additional physical activity. The third group "g2" consisted of respondents who were practicing an additional physical activity three to four times a week (Table 1.).

**Table 1** Groups by gender and frequency of physical activity

Groups / Sample	Total N = 309		Male N = 154		Female N = 155	
	/ percentage		/ percentage		/ percentage	
g 0 / M*g0 / F*g0	156	50,5 %	63	40,9 %	93	60 %
g 1 / Mg1 / Fg1	48	15,5 %	21	13,6 %	27	17,4 %
g 2 / Mg2 / Fg2	105	34 %	70	45,4 %	35	22,6 %

\*M – male subgroup, \*F – female subgroup

Source: Authors

## 2.2. Methods

To process the data, the statistical program Statistica StatSoft 10.0 was applied. To test differences in anthropometric characteristics due to the different frequency of physical activity by groups Univariate analysis of avriance (ANOVA) and LSD test were used.

## 3. Results

The analysis of data revealed that of the total sample (N = 309), 50.5% of them (male 40.9%, female 60%) does not deal with an additional physical activity in addition to regular PE classes, and 15.5% of them (male 13.6%, female 17.4%) deals with two to three times a week with regular PE classes, while 34% of them (male 45.4%, female 22.6%) deals with additional physical activity four to five times a week in own free time.(Table 1.). An another domestic study resulted in similar data where there has been 41,5 % of inactive male student on oppose to 66, 45 % in female students on the first year of faculty (Fučkar-Reichel et al., 2008).

**Table 2** Nutritional status ofstudentsbygender ( Bodymassindex/ Table 1. Nutritional status)\*

Nutritional status / Range of BMI*	Gender	
	Male students	Female students
Underweight <18.5	1.2 %	4,5 %
Normal weight 18.5 – 24.9	56.5%	79,3 %
Overweight/Pre-obesity 25 – 29.9	37.7 %	9,7 %
Obesity 1, 2, 3 30 - 40	5.1 %	6,4 %

\* Source: World Health Organisation - Regionaloffice for Europe (2016), <http://www.euro.who.int/en/health-topics/disease-prevention/nutrition/a-healthy-lifestyle/body-mass-index-bmi> (April 14, 2016).

Table 2. shows the percentage of respondents in the ranges of the nutritional status, according to research by the World Health Organization, for BMI variable. Thus, out of the visible to the male population in the male BMI variable 1,2% are underweight, 56,5% of the normal weight, even 37,7% of the overweight bordering on obesity and only 5,1% of the male population is obese.

In the women's section of the population these ratios are somewhat different. Underweight students make 4.5%, normal weight even 79,3% and 9,7% of them are overweight whilst in the category of obese belongs 6,4% of female students.

It is important to emphasize that BMI measure is not perfect because it is only dependent on height and weight and it does not take into consideration different levels of adiposity based on age, physical activity levels and sex. For this reason it is expected that it overestimates adiposity in some cases and underestimates it in others.

**Table 3** Descriptive statistics by gender

Variable	Male Students n=154			Female Students n=155		
	Mean	StDev	Min - Max	Mean	StDev	Min - Max
BMI	23,8	3,36	15,8 – 36,2	22,9	3,75	15,8 – 38,4
MM	39,6	4,40	30,1 – 49,7	27,4	2,53	20,0 – 34,2
BF	20,4	6,79	5,0 – 42,7	33,5	6,98	19,9 – 50,1
VM	5,5	2,95	1 - 14	3,6	1,18	1 – 7

Source: Authors

**Table 4** Univariate analysis and LSD test for male population

Subgroups / Variables	BMI			MM			BF			VM		
	Mean	StErr	p	Mean	StErr	p	Mean	StErr	p	Mean	StErr	p
Mg0	24,03	0,42	/	39,12	0,55	/	21,95	0,84	*	5,75	0,37	/
Mg1	22,61	0,73	/	40,90	0,95	/	18,33	1,46	*	4,62	0,64	/
Mg2	24,03	0,40	/	39,46	0,52	/	19,75	0,80	/	5,61	0,35	/

\*statistical significance  $p < 0,05$

Source: Authors

Univariate analysis of variance was applied for testing the differences between subgroups of body composition separately for male and female population. In the male statistically significant difference was found only in the variable BF between the subgroups Mg0 and Mg1, while in any other variable no statistically significant difference was established, but there are some differences. In the variable BMI difference exists between subgroups Mg0 and Mg2 where in the subgroup Mg2 values are lower and in between subgroups Mg1 and Mg2. Differences are also identified among all subgroups in variable percentage of muscle mass where the subgroup Mg1 has the highest percentage of muscle mass. The same case is with variable visceral fat, where there may be differences between all the three subgroups in which subgroup Mg1 has the lowest visceral fat.

**Table 5** Univariate analysis and LSD test for female population

Subgroups / Variables	BMI			MM			BF			VM		
	Mean	StErr	p	Mean	StErr	p	Mean	StErr	p	Mean	StErr	p
Fg0	23,31	0,39	*	26,90	0,25	*1 *2	34,42	0,71	*	3,76	0,12	*
Fg1	23,14	0,72	/	28,08	0,48	*0	33,45	1,33	/	3,67	0,22	/
Fg2	21,73	0,63	*	28,37	0,41	*0	31,08	1,16	*	3,20	0,20	*

\*statistical significance  $p < 0,05$

Source: Authors

In the female population statistically significant differences were observed in all variables. The variable BMI significantly differ second (Fg1) and third (Fg2) subgroup whereas third subgroup has the lowest value of BMI. The first (Fg0) and second subgroup in latter variable are also different, but not significantly. In the variable percentage of MM there is a statistically significant difference between the first and second subgroup where each subgroup has higher percentage of MM, and in between the first and third subgroups where the third subgroup also has higher percentage of MM.

In the variable body fat percentage differences are significant between the first and third subgroup wherein the third subgroup, Fg2 has lower values. There is also a difference between the first and second subgroup where each subgroup having lower values but the difference was not statistically significant. Furthermore, the variable visceral fat was significantly differ the first and third subgroup where also the third subgroup has the lowest value in the conducted variables. The difference between the visceral fat subgroups Fg0 and Fg1 is almost negligible.

## 4. Discussion and conclusion

### 4.1. Discussion

This study showed that students of Osijek Faculty except PE classes fairly regularly exercise, a total of 59% male and 40% female population which actually goes beyond the research results of other authors (Gošnik et al., 2002) and (Ćurkovic et al., 2009) . However, according to the research authors in later years talking about similar figures insufficiently active student population in which we find a difference in the female population, that is increasing number of involved female students in physical activity by about 6%. Confirmed by the research of other authors that men are much more likely to exercise than women (Buntić, 2006) which is also the case in this study and that even in the subgroup 3 where additional physical activity of three to four times a week for twice the benefit of the male population over the female. Furthermore, this research is still representing a good nutritional status of students as it is a total of 68% within the normal rank of nutrition with regard to BMI, which means that there is no risk of possible illnesses. However, it is worrying that the average age of the population is rather low, 19.5 years, which may not provide as much as possible the prevention of potential risks in subsequent years as these young people complete their studies.

Like other authors, we have confirmed the rate for men with BMI growth by increasing the frequency of physical activity (Rogulj et al., 2011). We explain this phenomenon with insufficient measurement precision of Omron scale (Omron Healthcare, 2008, and WHO, 2016). Due to frequent stimulation of muscles leads to muscle hypertrophy and reduction of subcutaneous fat which naturally results in increased body weight.

### 4.2. Conclusion

With future studies in this example it is advisable to increase the total sample and use more reliable instruments as well as provide students with more choices on physical activities.

In Croatia, classes of PE have not been alternated since last century and as numerous studies have show that two times a week for 45 minutes throughout the period of 12 years is just not strong enough stimulus to make a real morphological change for the better. Even more so in Universities where that stimulus has been halved. Young people's free time is not a well organized sector and is insufficiently influenced by the Government. It is necessary to better utilize environmental and organizational capacities of the Faculties to foster students' inclusion in different forms of exercise and sports.

In order to have a healthier, injury free and longer life we need quality system of education, which would start early in childhood (Andrijašević et al., 2009). Finally, schools need to expand their role in promoting physical activity for young people in order to create a prolonged habit of exercising.

## REFERENCES

World Health Organisation - Regional office for Europe (2016): **A healthy lifestyle, in: Body mass index**, <http://www.euro.who.int/en/health-topics/disease-prevention/nutrition/a-healthy-lifestyle/body-mass-index-bmi> (accessed 14 April 2016).

Health goods (2011): **Body fat analyzers**, in: Omron – body composition analysis, [http://www.healthgoods.com/Omron\\_Body\\_Fat\\_Scale\\_HBF\\_510\\_p/on-hbf510w.htm](http://www.healthgoods.com/Omron_Body_Fat_Scale_HBF_510_p/on-hbf510w.htm) (accessed 14 April 2016).

World Health Organization (WHO). Global Health Observatory (GHO). **Prevalence of insufficient physical activity** [pristup 19. svibnja 2012.]. Dostupno na [http://www.who.int/gho/ncd/risk\\_factors/physical\\_activity\\_text/en/index.html](http://www.who.int/gho/ncd/risk_factors/physical_activity_text/en/index.html)

WHO (1946./1948, **Ustav Svjetske zdravstvene organizacije** (potpisan 22. srpnja 1946.; stupio na snagu 7. travnja 1948. godine.)

Centers for Disease Control and Prevention (CDC). **Physical Activity for Everyone. How much physical activity do adults need?** [pristup 19. svibnja 2012.]. Dostupno na <http://www.cdc.gov/physicalactivity/everyone/guidelines/adults.html>

World Health Organization (WHO) Global Strategy on Diet, Physical Activity and Health. **Physical Activity and Adults, Recommended levels of physical activity for adults aged 18 - 64 years** [pristup 19. svibnja 2012.]. Dostupno na [http://www.who.int/dietphysicalactivity/factsheet\\_adults/en/index.html](http://www.who.int/dietphysicalactivity/factsheet_adults/en/index.html)

Government of Republic of Croatia, **Nacrt prijedloga Nacionalnog programa za mlade**, accessed 12.06.2006. Available from: URL: <http://www.volontiram.info/use/mat/Nacionalni%20program%20djelovanja%20za%20mlade.HTM>.

Andrijašević, M., Ciliga D., Jurakić D., (2009): Sports recreation and College students, Collegium Antropologicum 33, 1, pp. 163-168.

Jurakić D., Heimer S., (2012): **Prevalence of insufficient physical activity in Croatia and in the World**, Arhiv higijene rada i toksikologije 63,3, pp. 3-12.

Jurakić, D., Pedišić, Ž. i Andrijašević, M. (2009): **Physical Activity of Croatian Population, Cross-sectional Study Using International Physical Activity Questionnaire** Croatian Medical Journal, 50,2, pp. 165-173.

Greblo Z, Pedišić Ž, Jurakić D. **Relationship between exercise frequency and self-perceived mental health**: Milanović D, Prot F., editors: Kinesiology Research Trends and Applications. Proceedings of the 5th International Scientific Conference on Kinesiology; 10.-14. rujna 2008, pp. 814-817.

Jureša V, Musli V, Majer M, Petrović D. (2010): **Prehrana i tjelesna aktivnost kao čimbenici rizika od srčanožilnih bolesti u školske djece i mladih**, Medicus, 19, pp. 35-39.

**Renata Jukić, PhD**

Faculty of humanities and social sciences

Osijek, L. Jägera 9

Phone: 0038591 5162771 Fax:

E-mail address: rjukic@ffos.hr

**Vlatka Radaković**, mag. pedagogije i mag. edukacije filozofije; dipl. socijalna radnica

Osijek, Umaška 35

Phone: 00385996759100

E-mail address: vlatka.radakovic@yahoo.com

**EDUCATIONAL WORK IN PENAL INSTITUTIONS****ODGOJNO-OBRAZOVNI RAD U PENALNIM USTANOVAMA****ABSTRACT**

*Along with the societal changes we are all witnessing, the needs for lifelong learning are increasing. Adult learning and education is to a great extent an unexplored field. This in particular refers to the contested educational field, considering the fact that many negate the sole possibility of educational activity with adults. Along with other social changes of the contemporary world, most countries have an increasing population of convicts, who are a subgroup of the socially excluded population. A prison sentence and criminal activities that precede it, do not just affect the individual – the convict. The stated processes affect the society as a whole, especially the convicts' primary social environment. Educational work represents an important part of convicts' rehabilitation and resocialization, and educational programmes, managed by the staff of the treatment ward of penal institutions, are implemented with the aim to prevent the convict's return to crime and his/her more successful adaptation into society after leaving the penal institution. This research was conducted on a sample of 96 surveyed convicts of Osijek County jail. It attempted to examine the attitudes of the convict population towards the educational parts of the prison treatment and their own future. The obtained data was analysed using descriptive statistics, independent sample t-test and ANOVA. The data was analysed using OpenStat statistical programme. The results indicate that the convicts who participated in the research have positive attitudes towards the prison treatment and that they optimistically assess their own future. There is a positive correlation between the participant's age and his/her attitudes towards his/her own future and educational needs. This research indicates that the level of convicts' education and his/her attitudes towards educational needs at certain levels are connected. This indicates that it is impossible to generalize the attitudes and expectations of individual convicts and that there is a need for an individualized approach to each convict. This paper should contribute to theory of andragogy and penological-andragogic practice in defining the factors of quality penal treatment, which would also present a pathway towards improvement of the penal system as a whole.*

**Keywords:** prison treatment, social exclusion, lifelong learning, resocialization

**SAŽETAK**

*S društvenim promjenama kojima svjedočimo, povećavaju se potrebe za cjeloživotnim učenjem. Učenje i odgoj odraslih osoba u velikoj je mjeri neistraženo područje. Posebice se to odnosi na sporno područje odgoja obzirom da mnogi negiraju samu mogućnost odgojnog djelovanja na odrasle osobe. Zajedno s ostalim socijalnim promjenama suvremenog svijeta, u većini država raste*

*i zatvorenička populacija, podskupina socijalno isključene populacije. Kazna zatvora i kriminalna djela koja joj prethode nemaju utjecaj samo na individu – osuđenika. Čitavo je društvo, posebno primarno socijalno okruženje zatvorenika, dotaknuto navedenim procesima. Odgojno-obrazovni rad predstavlja bitan dio rehabilitacije i resocijalizacije osuđenika, a odgojni i obrazovni programi, kojima rukovode djelatnici tretmanskog odjela kaznenih ustanova provode se s ciljem sprečavanja kriminalnog povrata i uspješnijeg uklapanja u društvo nakon izlaska iz kaznene ustanove. Istraživanjem (na uzorku od 96 anketiranih zatvorenika Zatvora u Osijeku) se nastojalo ispitati stavove populacije zatvorenika prema odgojno-obrazovnim dijelovima zatvorskog tretmana i vlastitoj budućnosti. Pri obradi podataka korištena je deskriptivna statistika, t-test za nezavisne uzorke te ANOVA test. Podaci su obrađeni statističkim programom OpenStat. Rezultati su pokazali pozitivne stavove ispitanika prema zatvorskom tretmanu i optimističnu procjenu budućnosti ispitanika. Postoji pozitivna povezanost dobi ispitanika sa stavovima o vlastitoj budućnosti i obrazovnim potrebama. Istraživanje upućuje na povezanost stupnja obrazovanja ispitanika i stavova o obrazovnim potrebama na pojedinim razinama. Navedeno upućuje na nemogućnost generalizacije stavova i očekivanja pojedinih zatvorenika te potrebu za individualiziranim pristupom svakom pojedinom osuđeniku. Rad bi trebao andragoškoj teoriji i penološko-andragoškoj praksi pomoći u definiranju čimbenika kvalitetnog penalnog tretmana koji bi ujedno predstavljali i putokaz ka unapređivanju cjelokupnog kaznenog sustava.*

**Ključne riječi:** zatvorski tretman, socijalna isključenost, cjeloživotno učenje, resocijalizacija

## 1. Introduction

Modern society imposes conditions of survival before every individual, and lifelong learning and education are its imperatives. Petričević (2012) lists four main objectives of lifelong learning: personal satisfaction and development, active citizenship, social inclusion and employability. Andragogy is the science of educating adults, based on the achievements of pedagogy, sociology, psychology and economics education, and it is based on the philosophy of lifelong learning. Penal andragogy is a discipline that deals with adult education within the penal institutions. As human community changes, also the way of dealing with undesirable behavior defined as crime changes. In Croatian penal institutions there are separate departments for treatment, dealing with rehabilitation and social reintegration of convicts. Social exclusion is one of the main reasons for the inclusion of individuals in criminal activities, which leads to, in most cases, to more exclusion, instead of the expected success. Low levels of education and low employment opportunities are extremely present between inmates. In this regard, education is one of the fundamental tools that could reduce the exclusion of an individual after leaving the corrective institution. The openness of each prisoner to cooperation with the staff of a treatment department and a willingness to further learn and train, is an important factor in the success of educational work.

## 2. Treatment work in the prison institution

In the area of andragogic work with prisoners there was the question of re-educational opportunities, changes in the value system within the prison population. M. Foucault in his work *Discipline and Punishment* (1994), defined prison as a device for the transformation of individuals. On the one hand, prison was legally and economically based, and on the other hand, it was a technical discipline. Cvitanović (according to Furmint, 2011) saw the function of a punishment in supporting the realization of universal values (justice, equality, freedom, etc.). As they were considered a condition for the survival of the human community. Prisoners represented social groups with many peculiarities. Zečirević (2013, 58) described the prison population as "... mostly younger people, most of the prisoners' are from urban areas, from families that are significantly burdened by psycho-social problems, many of the prisoners come with light or severe health problems, most with only high school education and a certain number of them without work habits,



largely not socialized, without moral standards, significantly prone to risks with expressed aggressiveness, largely unmarried and without children, most of them living with parents with expressed personality disorders and an expressed dependence on alcohol and drugs, with relatively short sentences, to a large extent not critical, many who were prior sentenced or with anew criminal proceedings in progress... "

Law on Enforcement of Prison (2013) predicted structuralism of the treatment department in prisons and jails. Although the term "treatment" didn't belong to andragogy education, it was a subject of dispute in many other related sciences, was used here as it was part of the official name of the department in penal institutions in Croatia. Treatment department dealt with observing, proposing and making expert opinions, proposing and implementation of individual programs for the execution of his sentence, monitoring their implementation and evaluation of health care, education, development of expert opinion in connection with the application of the penal institutes and extraordinary legal remedies, keeping proper prisoners' records and other professional activities. Experts employed in the department of treatment were social workers, social educators, adult educators, doctors, psychologists, and teachers. Pedagogical procedures were directed towards prisoners with the aim of re-socialization (referring to education, work and organization of leisure time of prisoners). Education of prisoners was one of the oldest methods, present almost from the appearance of prison. The prison population has mostly been educated below average, and one of the surest predictors of delinquency was school failure (Crow, in Knežević, 2008). The most common programs were: gaining basic literacy or basic education. The right to education has been a fundamental human right (Charter of Fundamental Rights of the EU, 2000). Ideally, education and training in penal institutions should facilitate personal development and increase employment opportunities upon release. Motives for adult education within the penal institutions have been: competitiveness in the labor market after serving his sentence, resocialization, beneficial use of "free" time, avoiding stigmatization... (Moslovac, 2011). Work training has been implemented throughout various types of vocational education (Bloomberg, according to Knežević, 2008). Many studies have shown that difficulties with work have been a significant criminogenic factor, which resulted in the introduction of vocational training in prisons. As part of the imprisonment, the work has essentially been a means of socialization and an indication of the potential of later functioning in society. Knežević (2008: 175) listed four views on prison labor: as "occupational therapy", as well as employment opportunities after sentence, as a means of maintaining working abilities as prisoners and improving the material base of the prison. According to research conducted in the US (Reynolds, according to Knežević, 2008), a lesser degree of recidivism spoke in favor of a better re-socialization of individuals who had the opportunity to work in a penal establishment.

### **3. Empirical research methodology**

The goal of the research was to examine the attitudes, opinions and experiences of prisoners regarding prison treatment, educational needs of prisoners, work and education within the penal institutions and expectations of future prisoners, and based on the results, try to determine the desirable ways of educational activities inside the system. The following hypotheses were set: H1 respondents expressed positive views about prison treatment, recognized the importance, usefulness and need for cooperation with educators, psychologist and social worker in the penitentiary; H2 Younger respondents expressed positive attitudes about prison treatment; H3 There was no correlation between age and attitudes of respondents on educational needs; H4 Respondents with higher education increasingly recognized the importance of educational needs; H5 There was no correlation between age and attitudes of respondents on the education and work within the correctional institution; H6 Respondents generally positively assessed their own future; H7 There was no correlation between age and expectations of future subjects.

The study included 96 prisoners from Prison in Osijek. Data collection was conducted by a questionnaire containing Likert scale estimate of 5 degrees. The questionnaire consisted of two parts, the first examining sociodemographic characteristics of prisoners and information on the length of the sentence and recidivism. The second part of the questionnaire contained questions about the work of treatment departments in prisons, prisoners' attitudes about work and education within the penal institutions and expectations about life after the sentence. During data analysis, descriptive statistics, t-test for independent samples and ANOVA test were used. The data was processed with the use of statistical software - OpenStat.

#### 4. Results and discussion

##### 4.1 The results of the measures of socio-demographic characteristics of respondents

The participants were divided according to the age groups: young (21-40); older (41-62 years).

**Table 1** Participant's age

	<i>Min</i>	<i>1st quintile</i>	<i>Median</i>	<i>Mean</i>	<i>3rd quintile</i>	<i>Max</i>
Age	21	30	36.5	37.54	44	62

*Source: data analysed & compiled by authors*

Babić et al. (2006) reported that the majority of inmates (49%) have completed secondary or vocational school. Most participants in this study finished only elementary school (Table 2).

**Table 2** Participant's education

	unfinished elementary school	elementary school	high school	community college, university
Number of participants by the level of education	8.34% (N=8)	51.04% (N=49)	31.25% (N=30)	9.37% (N=9)

*Source: data analysed & compiled by authors*

75% of respondents (N=72) served a prison sentence longer than five years, while 25% (N=24) served shorter sentences or detention measures. A small number of participants, 40.62% (N=39) served their first time in the penitentiary, while 59.37% (N=57) relapsed.

##### 4.2 Descriptive statistics of selected dimensions of the variables

Farkaš and Žakman-Ban (2006) confirmed people aged 40-50 as better adapted to prison treatment, and people aged 20-25 and 30-40 averagely adjusted. Prisoners under the age of 20. and those older than 60 have been assessed as less successful in the initial adjustments to prison conditions. After 60 days, that situation changed, and the best adapted were people aged 30-40 and 40-50. Prisoners aged 20-25 proved to be less successful at that stage, while prisoners younger than 20 became a part of the middle average. After 90 days, the best adapted to prison conditions were the participants aged 30-50, thus concluding that there was a correlation between age and adapting to the conditions in prison. Because of those findings, a correlation between age with other studied variables has been assessed.

#### 4.2.1 Participants' attitudes about prison treatment

**Table 3** Statistical overview of the attitudes of the respondents about prison treatment

Attitude about prison treatment	N	M	SD	N	M	SD
	Younger participants			Older participants		
Lack of staff in the treatment department	43	4,32	0,94	53	3,88	1,28
The need for cooperation with the staff treatment	43	4,18	0,95	53	3,49	1,33
The importance of personal contribution in the treatment	43	3,79	1,26	53	3,36	1,42
Adaptation of treatment work to the respondent and their needs	43	3,76	1,26	53	3,34	1,28
Easier dealing with penalty with the treatment work	43	3,86	1,3	53	3,29	1,29
Working with the staff of treatment as an excessive liability	43	2,16	1,36	53	2,19	1,45
Working with treatments employees as a coercion	43	2,2	1,36	53	2,43	1,38
The usefulness of treatment work	43	3,79	1,33	53	3,49	1,43
Cooperation with the staff	43	4,18	1,03	53	3,39	1,19
The success of education and work in the penitentiary is associated with successful work of treatment department staff	43	3,86	1,28	53	2,89	1,45

*Source: data analysed & compiled by authors*

The younger group of respondents mostly expressed a greater need for cooperation with the treatment department staff. Breaking prejudices that certain group of prisoners had about the treatment might prove useful for successful educational activity, and has been recommended for all prisoners. The answers from both groups of participants **accepted Hypothesis 1**. With the aim of testing the connection of attitudes about prison treatment and age prisoners, t-tests made a comparison of younger and older age groups (Table 4).

**Table 4** T-tests on the results of the attitudes of younger and older groups of inmates

Attitude about prison treatment	t	df	p
Lack of staff a treatment department	1,93	94	0,05
The need for cooperation with the staff treatment	2,96	94	0,00
The importance of personal contribution in the treatment	1,57	94	0,12
Adaptation of treatment work to the respondent and their needs	1,63	94	0,15
Easier dealing with penalty with the treatment work	2,09	94	0,04
Working with the staff of treatment as an excessive liability	-0,09	94	0,93
Working with treatments employees as a coercion	-0,77	94	0,43
The usefulness of treatment work	1,06	94	0,29
Cooperation with the staff	3,47	94	0,00
The success of education and work in the penitentiary is associated with successful work of treatment department staff	3,47	94	0,00

*Source: data analysed & compiled by authors*

Statistically significant difference was observed in the following paragraphs: younger group of respondents saw a significantly greater need for cooperation with andragogues inside the prison, they bore their punishment easier with work and they cooperated significantly more with the staff of the treatment department. The above t-values exceeded the limit value ( $t(94) = 1.986, p < 0.05$ ). Partially **accepting Hypothesis 2**.

#### 4.2.2. Participants' attitudes on the educational needs of prisoners

**Table 5** Participants' attitudes on the educational needs of prisoners

It is necessary to ensure:	N	M	SD	N	M	SD
	Younger participants			Older participants		
Free elementary education for adults	43	3,76	1,43	53	3,17	1,32
Free high school education for adults	43	3,72	2,82	53	3,7	2,89
Free requalification	43	4,28	0,88	53	3,53	1,41
Free vocational training	43	4,25	0,90	53	3,62	1,24
Free colleges	43	3,86	1,16	53	3,62	1,24

Source: data analysed & compiled by authors

**Table 6** T-Tests on the results of the attitudes of younger and older groups of prisoners

It is necessary to ensure:	t	df	p
Free elementary education for adults	2,13	94	0,04
Free high school education for adults	0,04	94	0,97
Free requalification	3,19	94	0,00
Free vocational training	2,89	94	0,00
Free colleges	6,63	94	0,00

Source: data analysed & compiled by authors

The listed results lead to the conclusion that younger respondents assessed significantly higher the educational needs of prisoners (probably because they expected their education to be useful in the future). That **rejected Hypothesis 5**. With the objective of comparing the views of groups of subjects with different levels of education offered on the areas of education or training, an ANOVA test was made.

**Table 7** ANOVA test on the results of the groups of participants with unfinished elementary and high school, community colleges and universities

Subscales		Groups of participants				F ratios df (3)
		No Elementary school	Elementary school	High school	Community college	
Free elementary school for adults	M	2,75	3,24	3,70	4,22	2,59 (p=0,06)
	SD	1,28	1,38	1,29	0,83	
	n	8	49	30	9	
Free high school for adults	M	2,75	3,43	4,17	4,56	7,99 (p=0,00)
	SD	1,49	1,02	0,91	0,53	
	n	8	49	30	9	
Free requalification	M	3,50	3,75	4,00	4,33	0,92 (p=0,43)
	SD	1,19	1,28	1,23	0,86	
	n	8	49	30	9	
Free vocational training	M	3,25	3,80	4,13	4,33	2,44 (p=0,07)
	SD	1,03	1,02	1,01	0,71	
	n	8	49	30	9	
Free college education	M	2,65	3,61	3,97	4,33	3,61 (p=0,01)
	SD	1,19	1,12	1,38	0,86	
	n	8	49	30	9	

Source: data analysed & compiled by authors

The respondents with unfinished elementary school gave relatively lower scores to all the claims about the educational needs. The estimates of that group were in line with expectations based on previous research (Marušić, 2007). The higher the level of education – the higher the ratings on all particles. Nikolić (2013) determined a significant association of professional education and

educational needs, so that the educational needs grew in proportion to the degree. As can be seen from the results of ANOVA, respondents with high school or community college degree assess much higher the educational needs of prisoners. That indicated the need of a treatment of those with the lowest level of education. That **accepted Hypothesis 6**.

#### 4.2.3. Participants' attitudes on work and education within the correctional institution

Kett and Morgan (2003), and Burke and Vivian (2001) came to the conclusion about the connection between low levels of education or literacy and involvement in criminal activities.

*Table 8 Participants' attitudes regarding working and education within prison*

Attitude regarding working and education within prison	N	M	SD	N	M	SD
	Younger participants			Older participants		
Satisfaction with the offer of free educational programs in prison	43	3,93	1,18	53	3,9	1,02
The experience of participating in free programs	43	3,58	1,24	53	2,96	1,28
The will to participate in free educational programs	43	2,83	1,30	53	2,83	1,68
I plan to further educate myself in the penitentiary	43	3,35	1,19	53	3,06	1,04
The need to expand the range of educational programs	43	3,88	1,08	53	3,19	1,07
Compatibility of the program and the actual needs of the labor market	43	3,35	1,44	53	2,98	1,08
Paid work should be given to everyone in prison	43	4,09	1,02	53	4,11	1,1
Work and education as a necessary part of life	43	3,76	1,21	53	3,41	1,17
Possibility of work in prison	43	3,74	1,27	53	3,55	1,12
Work is more useful than education	43	3,49	1,08	53	3,79	1,11

*Source: data analysed & compiled by authors*

It was worrisome (acc. to Moslavac, 2011) that only a small number of prisoners decided to take advantage of the right to education. Research results showed that a small part of the respondents had experience of participation in free training programs, a bit more of them were from a younger group of respondents. According to Robinson (2013), there were multiple benefits from the introduction of academic programs to reduce recidivism. The younger group of respondents largely agreed with the following statements. Older participants evidently agreed in a less manner. All respondents demonstrated the lack of will to participate in free educational programs, as confirmed by the results of the research by Žnidar et al. (2011). The study revealed the attitudes of the working population of Croatia towards lifelong learning, saying that it was not one of the most important factors for career development and successful living. Most respondents did not have the experience of participation in free educational programs, and there was a visible criticism in terms of harmonizing the program with the actual needs of the labor market. Šverko et al. (2005) reported that the middle-aged people were in the worst position in terms of employability, therefore, there was an evident curvature of results - younger and older respondents were slightly better positioned. Elderly participants of educational programs weren't usually motivated to work in a program or their level of motivation would be lower if there were no employment opportunities upon program completion. The results of both groups showed a lack of conviction about the usefulness of the program in the penitentiary on the external labor market.

**Table 9** T-tests on the attitudes of younger and older group regarding education in prison

Attitude regarding work and education in prison	<i>t</i>	<i>df</i>	<i>p</i>
Satisfaction with the offer of free educational programs in prison	0,13	94	0,89
The experience of participating in free programs	2,39	94	0,02
The will to participate in free educational programs	0,00	94	1
I plan to further educate myself in the penitentiary	1,26	94	0,21
The need to expand the range of educational programs	3,14	94	0,00
Compatibility of the program and the actual needs of the labor market	1,38	94	0,17
Paid work should be given to everyone in prison	-0,09	94	0,93
Work and education as a necessary part of life	1,44	94	0,15
Possibility of work in prison	0,82	94	0,43
Work is more useful than education	-1,35	94	0,18

Source: data analysed & compiled by authors

Younger group of respondents gave a significantly greater difference to the experience of participating in free educational programs and the need to expand the supply of the same. A statistically significant difference could not be observed on other questions, less than 95%. That accepted **Hypothesis 7**.

#### 4.2.4. Participants' expectations from future

Reflection of systematic work in penal institutions, but also the post-penal assistance should be directed towards researching the expectations of future - moments that prisoners valued important for the future quality of life. Many studies indicated the beneficial effect of optimism on the entire life of individuals (Gillman, et al., According to Ivanković Rijavec, 2012).

**Table 10** Statistical overview regarding expectations from future

Expectations from future	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>
	Younger part.			Older part.		
Optimism	43	3,77	1,46	53	2,81	1,44
Work experience helps after getting out of prison	43	3,51	1,28	53	3,13	1,19
Educational experience helps after getting out of prison	43	3,14	1,41	53	2,98	1,31
Safety of planning	43	4,11	1,12	53	3,17	1,39
Returning to family	43	4,00	1,15	53	3,73	1,39
Working outside the institution helps after getting out of prison	43	4,11	1,07	53	3,39	1,4
Increased effectiveness of community service	43	4,25	0,82	53	3,49	1,54
Necessary obligations of work and education	43	3,63	1,31	53	2,92	1,38
The impact of own engagement on quality of life	43	4,00	1,13	53	2,62	1,29
The will to continue cooperating with treatment department employees	43	3,51	1,28	53	2,6	1,42

Source: data analysed & compiled by authors

In this part of the questionnaire, the younger group of respondents generally assessed higher the given claims. Doležal (2009) concluded that there was a significant correlation between age of subjects and involvement in a criminal lifestyle in a way that younger respondents have immersed more deeply in a criminal lifestyle. Optimism and willingness to cooperate of younger subjects could be the starting point for a curricular thinking of the treatment work, to prevent criminal recidivism. Respondents of both groups highly valued the claim of greater effectiveness of community service in relation to imprisonment. Although a large number of respondents believed that paid work should be given to everyone in the penitentiary, they didn't perceive work and education as necessary and mandatory part of life. However, the above statement was analogous to that of the absence of the will to participate in educational programs. With regard to the answers of all respondents, **Hypothesis 8 was accepted**.

**Table 11** T-tests on the results of expectations from future from both younger and older group

<b>Expectations from future</b>	<b>t</b>	<b>df</b>	<b>p</b>
Optimism	3,21	94	0,00
Work experience helps after getting out of prison	1,49	94	0,14
Educational experience helps after getting out of prison	0,57	94	0,57
Safety of planning	3,69	94	0,00
Returning to family	1,02	94	0,31
Working outside the institution helps after getting out of prison	2,87	94	0,01
Increased effectiveness of community service	3,11	94	0,00
Necessary obligations of work and education	2,55	94	0,01
The impact of own engagement on quality of life	5,56	94	0,00
The will to continue cooperating with treatment department employees	3,29	94	0,00

*Source: data analysed & compiled by authors*

Respondents' attitudes regarding the usefulness of the experience of work and education in institution after the release did not provide a statistically significant difference ( $t(94) = 1.49, p > 0.10$ ), as well as answers about respondents' returning to their families ( $t(94) = 1.02, p > 0.10$ ). The younger group of respondents had positive views on all other issues (significant t-values exceed the limit value ( $t(94) = 1.986, p < 0.05$ ). Younger group showed significant positive expectations from, which indicated the increased need for working with a treatment department with the aim of increasing optimism and expanding the perspective of older prisoners. Therefore **Hypothesis 9 was rejected**.

## 5. Conclusion

Educational work with prisoners played an important part of their rehabilitation and social reintegration, and programs that were managed by employees of the treatment department were being implemented to prevent recidivism and for successful integration into the society after getting out of the penal institution. The research results indicated a generally positive attitudes toward the prison treatment and generally positive assessment of future subjects. The study showed that both groups (younger and older) recognized the general lack of staff in the treatment department in prisons. The above served a good indicator and guidelines to improve the penal system through greater employment of experts competent for implementing individualized programs. A statistically significant correlation between age and attitudes of respondents about prison treatment couldn't be noticed. Results indicated that post-penal help should be oriented more towards older prisoners, since a small number from the older group of participants would go back to their families and they poorly valued their own impact on the quality of their lives. Not quite in contrast to those views, older respondents feel significantly less the need for cooperation with the treatment staff after their release, although they clearly required that kind of assistance. Seeing that the prisoners with a lower level of education were the ones not to recognize the educational needs, it was recommended to invest greater efforts in educational work just with people who were the most deprived in that area, in order to make progress on the educational level and also on personal, social and civic level, and to increase employment opportunities in particular for prisoners who had difficulties after leaving prison (those with the lowest levels of education). The younger group of participants assessed significantly higher the need for education, training and requalification within prison. However, lifelong learning as part of active aging should be a part of life of the aging population as well. This view of the educational needs of prisoners should be a clear message aimed at improving the various educational programs within the Croatian penal system. Education, training and requalification often remained only on the theoretical level of features and their implementation was limited by penal institution's safety and financial abilities. Willingness of respondents to participate in educational programs, however slight, should be used as a factor to improve society as a whole. The lack of connection between the subject's age and attitudes on most of the areas of the

implemented research, spoke in favor of the individualization program as a path to a successful prison treatment. The theoretical and comparative analysis and the conducted empirical research, should help the andragogy education theory and the penalty-andragogy educational practice in defining factors of quality penal treatment which would also represent and guide to the improvement of the entire penal system.

## REFERENCES

Babić, V. Josipović, M. Tomašević, G.(2006): *Hrvatski zatvorski sustav i zaštita ljudskih prava zatvorenika*, Hrvatski ljetopis za kazneno pravo i praksu, Vol. 13, No. 2, pp. 685-743.

Burke, L. O., Vivian, J. E.(2001): *The Effect of College Programming on Recidivism Rates at the Hampden County House of Correction: A 5 – Year Study*, Journal of Correctional Education, Vol. 52, No. 5, pp. 160-162.

Doležal, D. Jandrić, A. (2002): *Institucionalni penološki programi s ovisnicima o ilegalnim drogama*, Kriminologija i socijalna integracija, Vol. 10, No. 2, pp.105-117.

Farkaš, R. Žakman-Ban, V. (2006): *Obilježja procesa prilagodbe zatvorskim uvjetima zatvorenika/zatvorenica s obzirom na sociodemografske i kriminološke osobujnosti*, Hrvatski ljetopis za kazneno pravo i praksu, Vol. 13, No. 2, pp. 957-990.

Foucault, M. (1994): *Nadzor i Kazna*, Informator, Zagreb

Ivanković, M., Rijavec, M. (2012): *Utjecaj provođenja programa pozitivne psihologije na optimizam i razredno ozračje kod učenika*, Napredak, Vol. 153, No. 2,pp. 219-233.

Kett, M., Morgan, M. (2003): *The prison adult literacy survey. Results and implications*, Irish Prison Service, Dublin

Knežević, M. (2008): *Penologija u socijalnom radu (i socijalni rad u penologiji)*,Pravni fakultet, Studijski centar socijalnog rada, Zavod za socijalni rad, Zagreb

Marušić, S. (2006): *Upravljanje ljudskim potencijalima*, Adeco, Zagreb

Mejovšek, M. (2002): *Uvod u penološku psihologiju*, Naklada Slap,Jastrebarsko

Moslavac, B. (2011): *Mogućnosti obrazovanja odraslih u penološkim ustanovama*, Andragoški glasnik, Vol. 15, No. 2, pp. 238-249

Petričević, D. (2012): *Obrazovanje odraslih*, IPROZ, Zagreb

Rački, G. (1995): *Salijentnost uloge rada u osuđenih osoba*, Kriminologija i socijalna integracija, Vol. 3, No. 2, pp. 207-214

Robinson, C.V. (2013): *From Bars to Textbooks: Bringing Higher Education Behind Bars*, in: Proceedings of the 12th Annual South Florida Education Research Conference, ed:Plakhotnik, M.S., Nielsen, M. , pp. 195-200

Šverko, B., Galić, Z., Maslić Seršić, D. (2005): *Nezaposlenost i socijalna isključenost: longitudinalna studija*, Revija za socijalnu politiku, Vol. 13, No. 1, pp. 1-14



Uprava za zatvorski sustav (2013): *Izvjешće o stanju i radu kaznionica, zatvora i odgojnih zavoda za 2012. godinu*, Ministarstvo pravosuđa Republike Hrvatske, Zagreb

Zakon o izvršavanju kazne zatvora. NN 128/99, 55/00, 59/00, 129/00, 59/01, 67/01, 11/02, 190/03, 76/07, 27/08, 83/09, 18/11, 48/11, 125/11,56/13, 150/13

Zećirević, E.(2013): *Teorije pomaganja u penalnom sustavu*, Andragoški glasnik, 17, 1, pp. 49-64.

Žnidar, K., Balen, H., Pilić, A. (2011): *Istraživanje interesa i stavova o cjeloživotnom obrazovanju u Hrvatskoj s posebnim osvrtom na informatičko obrazovanje*, Andragoški glasnik, Vol. 15, No. 2, pp. 354-366.

Povelja o temeljnim pravima EU (2000), [http://www.pravo.unizg.hr/\\_download/repository/Povelja\\_o\\_temeljnim\\_pravima\\_Europske\\_unije.doc](http://www.pravo.unizg.hr/_download/repository/Povelja_o_temeljnim_pravima_Europske_unije.doc) (accessed 15 September 2015)

**Željka Kadlec, univ.spec.Ec.**  
Ph.D. candidate, Postgraduate Doctoral Studies  
Faculty of Economics in Osijek  
Phone: +385 33 492 269  
E-mail: zeljka.tai@gmail.com

**Mladena Bedeković, univ.spec.Ec.**  
Ph.D. candidate, Postgraduate Doctoral Studies  
Faculty of Economics in Osijek  
Phone: +385 33 492 269  
E-mail: mladena.bedekovic@vsmti.hr

## **APPLICATION OF MARKETING ON INSTITUTIONS OF HIGHER EDUCATION**

### **PRIMJENA MARKETINGA NA VISOKIM UČILIŠTIMA**

#### **ABSTRACT**

*The modern knowledge-based economy and the promotion of knowledge is a prerequisite for development of education institutions. Marketing as an organizational function can be defined as the set of processes aimed at creating, communicating and delivering value to consumers and development of customer relationship management in a way that benefits the organization and its owners. Characteristics of modern educational market have increased the need of the marketing activities of higher education institutions. Specifics of marketing in education are related to the fact all stakeholders: teaching and non-teaching staff, administration and the whole internal environment play a significant role in the customers' perception of the institution. That means that significant amount of time and complex coordination of different stakeholders need to be implemented when creating marketing strategy. The goal of marketing of higher education institutions is to create a positive image of the institution, which consequently will lead to an increase in the number of students and recognition institutions in the scientific community. Through analysis of implemented marketing activities, this paper will try to show the possibilities of marketing higher education institutions emphasizing the use of marketing media in the marketing process. Highly competitive market, intensive efforts to attract new customers and the necessity to invest into marketing activities create the bases for the theoretical framework of this paper. Research results indicate the crucial importance of involving all internal stakeholders into the marketing process and show imply word of mouth and Internet as major marketing media in institutions of higher education.*

**Key words:** marketing, higher education institutions, higher education, word of mouth, Internet

#### **SAŽETAK**

*Suvremeno gospodarstvo utemeljeno na znanju i promicanju znanja preduvjet je razvoja konkurentnosti neke obrazovne institucije. Marketing kao organizacijska funkcija može biti definiran kao niz procesa s ciljem stvaranja, komuniciranja i isporuke vrijednosti potrošačima te upravljanja odnosima s potrošačima na način koji pogoduje organizaciji i njenim vlasnicima. Karakteristike suvremenog obrazovnog tržišta povećavaju potrebu za implementacijom marketinških aktivnosti u institucijama visokog obrazovanja. Specifičnost marketinga obrazovnih institucija vezana je uz važnost uloge svih dionika – nastavnog, nenastavnog osoblja,*

*administracije, uprave i svih ostalih članova internog okruženja, u kreiranju percepcije institucije od strane njenih korisnika. U tom kontekstu nužna je velika količina vremena i kompleksna koordinacija svih dionika u kreiranju i implementaciji marketing strategije. Cilj marketinga visokoobrazovnih institucija je stvaranje pozitivnog imidža, a što posljedično dovodi i do povećanja broja korisnika i priznatosti institucije u znanstvenoj zajednici. Kroz analizu primijenjenih marketinških aktivnosti u instituciji visokog obrazovanja, ovaj rad ukazuje na mogućnosti primjene različitih marketinških aktivnosti i korištenja integrirane marketing komunikacije u marketing procesu u visokom obrazovanju. Visoko konkurentno tržište, intenzivni naponi u privlačenju novih korisnika i nužnost ulaganja u marketinške aktivnosti kao teze čine teorijski okvir istraživanja u ovom radu, a koji je potvrđen i rezultatima istraživanja. Naglasak je stavljen na značaj uključivanja svih dionika u marketing proces institucija visokog obrazovanja te na usmenu predaju i Internet kao najznačajnije oblike komuniciranja s tržištem.*

**Ključne riječi:** marketing, visoka učilišta, visokoškolsko obrazovanje, usmena predaja, Internet

## 1. Introduction

This paper focuses on specifics of the marketing process in higher education institutions. Accepting the marketing philosophy in higher education institutions require that the entire institution is thinking in terms of marketing concepts and market performance (Leko Šimić i Čarapić, 2007:8). Specifics of marketing in education is that in such an organization more entities reside (administrative staff, library staff, faculty and others.) and all of them play a significant role in creating a positive image of the institution. Therefore, a large amount of time and complex coordination among different stakeholders is very important. In marketing terms the education is a system based on trust with a student.

Importance of Virovitica College for general development and progress of the local community is reflected primarily in the orientation towards raising the general educational level of the population, as well as to facilitation of access to higher education in the Virovitica-Podravina County. By providing high-quality services, knowledge and experience that students can acquire at college already promotes its work, which presents itself as a determinant critical to competitive advantage and thus contributes to the positive image of the Virovitica College. Activities of marketing communication must be integrated in order to convey a consistent message and achieve strategic positioning. Main orientation and aim of educational institutions is to transfer knowledge to students. By acquiring a certain level of education allows students to compete on the labour market and in this way they justify the decision to achieve higher education. Marketing goal of higher education institutions is to create a positive image of the institution, consequently leading to an increase in the number of students and recognition of institution among numerous experts. Considering that practice has shown that the most favorable communications media at universities is marketing by word of mouth and website, explains the main features of these marketing media.

## 2. Marketing orientation of higher education institutions on the market

Speaking about the environment in which a certain higher education institution operates it has to first of all address the social and business environment with which it cooperates. By supporting the transfer of knowledge during its activities and work, the Virovitica College is continuously evolving, which is confirmed by the establishment and intensification of relations with the local community, especially with entrepreneurs in the area of Virovitica-podravina County and broader region.<sup>1</sup> Accepting the marketing philosophy in higher education institutions require that the entire institution is thinking within the framework of marketing concepts and market performance. Key

---

<sup>1</sup> Data taken from Strategy of Virovitica Collge, (Work and development program) for the period 2013. – 2017. , <http://www.vsmi.hr/images/stories/Dokumenti/STRATEGIJA%20RAZVOJA%20VSMI%202013%20do%202017%20hrv.pdf> , (accessed 20.02.2016.)

terms on which to focus are needs of consumers, market segmentation, competitors and their market positioning as well as development of new products or services in accordance with market trends (Leko Šimić and Čarapić, 2007). An important determinant that describes what kind of marketing is present on the market of higher education is communication aimed at a particular group of consumers. It is this kind of targeted marketing which is defined as „the decision to identify different groups that make up the market, product development and marketing mixes for selected target markets" (Kotler et al., 2006:447). As such it is useful in recognizing marketing opportunities, development of more effective products and marketing mixes.

By educating and training of people in accordance with market needs and fulfilling social responsibility, higher education institutions achieve their primary mission - the satisfaction of specific social needs. By selecting and formulating marketing strategies higher education institutions must implement a strategy of segmentation, consider market opportunities, perform competitive analysis, perform positioning of the institution in relation to the competition, evaluate the program position on the markets and make a decision on marketing mix (Živković and Gajić, 2010). The activity of providing education services already determined College position on the market, so on the example of Virovitica College we can say that this higher education institution has established itself in the field of education of young managers and entrepreneurs which will apply their acquired knowledge on the labor market. That which makes College competitive is the life of the institution according to the basic core values as a starting point for the development of students, faculty and staff. Activities of marketing communication must be integrated in order to convey a consistent message and achieve strategic positioning. Marketing experts should assess the experiences which will have the greatest impact and accordingly choose the communications program and distribute available funds. „The strategy of promotion of marketing communication is a comprehensive program of focused activities and the resources needed for effective communication with all current and potential target groups“ (Pavičić et al., 2006:191). Every year is more and more evident that Virovitica College is heard in ever-widening circles and with positive connotations. Continuous work and training of people (teachers, students, students and professional staff), the area that is well equipped and provides all conditions for work and study as well as various other activities that lead services towards a certain level of excellence to which it aims for. Certain strategic orientations such as that there is no transfer of ECTS points to higher years lead towards higher quality of acquiring knowledge of students which is supported by cases that our students are recognized for their responsibility and continuous work. Higher education institutions usually don't have well-developed marketing departments but are continuously durring their work carrying out marketing activities that contribute to a better image of the institution.

### **3. The tendency of marketing communication between Colleges and studnets**

Marketing of higher education institutions mostly comes down to public relations but it branches and affects all aspects of functioning of higher education institutions (Kos et al., 2011). Starting steps in the development of the media plan depend on the analysis of the situation, plan of marketing strategy and plan of creative strategies. The choice of media mix is largely dependent on the availability, accessibility and development of the media. Among other things, they give the possibility of two-way communication with consumers, easier targeting of target groups easier measurement of their reach and are several times cheaper (Ferenčić, 2012). Of course it is best to observe all the benefits that a particular higher education institution has for selecting the media mix, in order to promote it in the best light and at the same time provide quality service. For basic marketing medium the Virovitica College has selected the Internet in a way that provides all necessary information to students. For alternative forms of marketing have been selected: participation at fairs (Forum of profession, Viroexpo. Agroarca, Job Fair, etc.), visiting high schools in the county and surrounding areas, radio (Virovitica radio - county radio) and other marketing media.

Promotion of education services at the Virovitica College is organized in a way that a high level of excellence is carried out that seeks to ensure the quality and competitiveness on the Croatian and European Higher Education Area. Implementation of marketing activities is most visible so far through realization of promoting and advertising of Virovitica College. This is achieved through WOM-a (Word of mouth), internet – existing web page, radio / public relations, through direct marketing, promotion at trade fairs / exhibitions, as well as moving board. College so far has well-targeted promotional activity by implementing marketing through selected media though there is still plenty of room for improvement and perhaps even for the establishment of the marketing department. Data of Virovitica College show that in the academic year 2013/2014, the highest percentage of gathered information was through word of mouth marketing. Obtained results from the survey conducted for this study (in the academic year 2014/2015) show that this form of promoting is the most successful so far and it attracts the largest number of potential students. „Certain marketing tools such as marketing by word of mouth can be called classic marketing tools regardless of whether they use the most modern methods to create a positive image of higher education institutions.“ (Kos et al., 2011:4). Every day imposes new ways of communicating with students. Primarily here arises the progress of new information and technological advances which push the media such as the Internet to the top of the communication chain.

Internet with its intensive development has become an important marketing medium which will in the future be an essential factor in business of companies. The advent of social networks has brought about significant changes in marketing and in the way companies communicate with customers. Members of social networks are not just students and young people looking for leisure, diversion and exchange all kinds of bits, but they are increasingly intellectuals and business people from around the world (Stanojević, 2011). With the integration of Web 2.0 principles in the process of e-education a large number of web applications has appeared that allow students easy access to information and knowledge acquisition.<sup>2</sup> Availability of information to students is a very important aspect which is managed during the considerations and adoption of certain decisions. With the development of technologies young people follow trends and quickly adapt, and communication via the Internet is increasingly developing. The technological boom is the main cause of the increase in search of key information about programs of study, that Colleges and Polytechnics and institutions of higher education provide to its customers. Only 15 to 20 years ago it was not possible to find all the information on enrollment or about colleges over the Internet. Potential students had to physically visit the colleges and universities to find out what interests them or they had to have friends or relatives which could convey their first-hand information, by word of mouth marketing. Another sphere of communication with students can be presented through the development of multimedia teaching materials, which are located on a server and can be made available anywhere and anytime. „The use of multimedia in teaching requires the teachers' knowledge of how to use the Internet and knowledge of the tools and techniques of creating multimedia. The goal of of creating each educational multimedia material is that recipients better realize, understand and remember specific teaching materials“ (Mateljan et al., 2009:38).

Daily updates can be added to consumers profile on a social network, video clips and articles on higher education institution and in this way direct the image of the institution as one at which there is always something going on, which participates, organizes, monitors and cares for its students. Advantage of this method of communication is based on the measurability of users participating in the communication process with the higher education institution. The fact is that social networks continue to spread information between contacts as an electronic form of word of mouth marketing. (Kos et al., 2011:4). Development of modern technologies increases the use of new media that is better and more effective way to reach users. „Informatization and digitization has affected all aspects of creating marketing activities so advertising via keywords (Eng. Keyword advertising),

---

<sup>2</sup> Orehovački, T., Konecki, M., Radošević, D. (2007): Web 2.0 and evolution of education, [http://bib.irb.hr/datoteka/318648.Orehovacki\\_Konecki\\_Radosevic\\_IIS2007.pdf](http://bib.irb.hr/datoteka/318648.Orehovacki_Konecki_Radosevic_IIS2007.pdf), (accessed 21.12.2015.)

which represents advertising through Internet search engines and specialized ad networks, most frequently by using text ads, is based on the use of keywords for better targeting of the desired segment of consumers" (Škare, 2011). Very important in the field of modern marketing communication of higher education institutions is the creation of a database of students, prospective students and other potential users. Using the database can create a mailing list which will in a fast and efficient way be able to share information with customers at relatively low or no cost (Kos et al., 2011).

At the moment in Croatia, according to the Agency for Science and Higher Education<sup>3</sup> operates 25 higher education institutions (there are three public Colleges, including the College of Management in Tourism and Information Technology in Virovitica while there are 22 private colleges) and 15 universities (11 public and 4 private universities). Place and manner of providing service creates specific perception with consumers themselves and this influences their decision-making process. The development of technology enables new distribution channels through which the service comes to the consumer. The task of distribution of the educational process is to in the best way transfer knowledge to students and provide a learning process that will result in the development of skills and competencies of future professionals.<sup>4</sup>

#### **4. Methodology of research**

Subject of research in this work are marketing possibilities of higher education institutions (universities and colleges), which will be displayed on a real case from practice on the Croatian market, on which certain marketing and promotion laws are valid, especially when it comes to the specific field of non-profit public sector. Students of the College of Tourism and Information Technology in Virovitica (hereinafter Virovitica College) have been interviewed through a questionnaire to find out through which marketing media have they come up with the necessary information for registration at the Virovitica College, sample consists of 136 respondents. Similar data was presented in the Self-Evaluation of College and will be compared with the new data in order to provide a long-term view on the behavior of students as consumers.

Based on the predefined object of research a hypothesis was set relating to the application of marketing in terms of competitive struggle to attract consumers, with continuous increase in the number of competitors and the necessary investment in marketing of each institution. Research has strived to show why it is important to promote higher education and on the example demonstrate one of possible ways of marketing. H1: College successfully promotes their services through selected marketing mix. H2: Word of mouth marketing and the Internet are main marketing media through which students receive information about College. By developing and managing relationships with students as well as providing quality services - knowledge and experience that students can acquire at College, promotes its work which is a very important guideline for competitive advantage and thus contributes to the positive image of the Virovitica College.

#### **5. Research results**

Research was carried out at the College of Virovitica by interviewing a total of 136 students from the first and second year of all study courses: Information Management, Management of Rural Tourism and Business services. The survey included 79 students from the first year and 57 from the second year. Structure of students by gender is majority of female respondents with 89 respondents while male respondents were only 47. Students were surveyed through a questionnaire which consisted of 15 questions and most of students came from secondary economic schools. After the

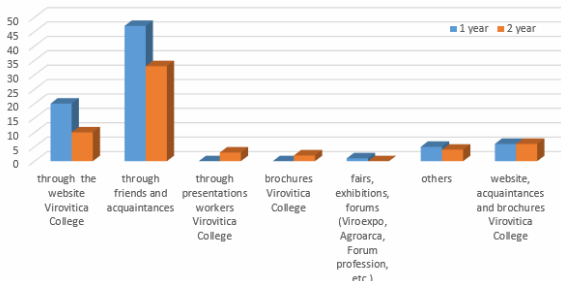
---

<sup>3</sup> Data gathered from pages of Agency for science and higher education, <http://mozvag.srce.hr/preglednik/pregled/hr/tipvu/odabir.html>, (accessed 21.12.2015)

<sup>4</sup> Marketing plan of Faculty of Philosophy in Osijek, [http://www.ffos.unios.hr/serv\\_file.php?file=2589](http://www.ffos.unios.hr/serv_file.php?file=2589), (accessed 19.01.2016.)

socio-demographic data aim of this research is primarily an attempt to obtain information relating to marketing ways through which the students reached Virovitica College or where they got the best information about it (Graph 1).

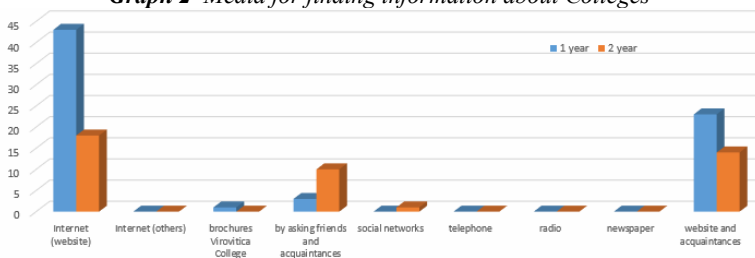
**Graph 1** Way in which students found out about Virovitica College



Source: Authors work

This chart showed that the good image of the Virovitica College transfers by word of mouth marketing and that students found out about it through friends and acquaintances. Comparing the data obtained from questionnaires from the data collected for the purpose of self-evaluation<sup>5</sup> of College it can be concluded that the trend of "good reputation" continued and which further confirms well-selected media plan by the administration of Virovitica College. Of the total 136 surveyed students, 80 students gave an answer that they learned through friends and acquaintances about College and 30 students said that they found out about it via the internet or the website. This is certainly a large percentage (59% of acquaintances and 22% of the web page) that gives a good indication of future marketing activities. Of course this is only a small part of the respondents who have tried to find out something about the Virovitica College and perhaps a more detailed and comprehensive study of this market segment could be conducted which would certainly give some new ideas on how to convey information about the Virovitica College. One of the questions of the questionnaire sought to determine which were the first steps of potential students after learning of these courses. 61 student has reviewed the website of College, 13 were questioning friends and acquaintances and 37 were examining the site and questioning acquaintances. The rest is just a small number of those who have tried to find out more information through other media. It can be seen from the following graphic representation.

**Graph 2** Media for finding information about Colleges

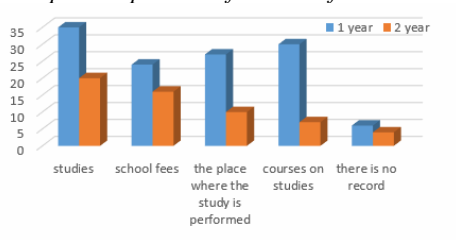


Source: Authors work

<sup>5</sup> Data taken from self-analysis of Virovitica College, siječanj 2014., <http://www.vsmi.hr/images/stories/Dokumenti/REAKREDITACIJA/SamoanalizaVisoke%20kolena%20hrvatskom%20jeziku.pdf> , (accessed 20.02.2016.)

Information they were interested in is which study courses colleges offer their students, tuition fees and in which place is study located. The following graphic display (Graph 3) shows us which information (of previously mentioned) were the most important for entry.

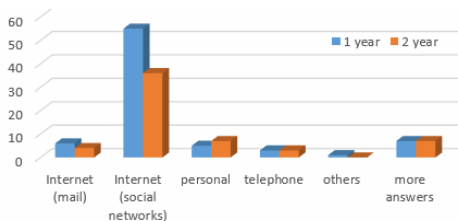
*Graph 3 Important information for students*



*Source: Authors work*

Their proposal of marketing media for Virovitica College was mainly in the following order: Internet (Facebook, website), TV, and other media such as professors going with students to high schools and presentation of study programs, brochures, fairs and the like. Today's students are well acquainted with the new technological possibilities of communication and therefore prefer to communicate via the Internet and through social networking sites, 91 students responded positively. The following graph shows favorite communication media and students generally prefer to be on the Internet and social networks to explore the possibilities of studying.

*Graph 4 Favorite communication media about the studying possibilities*



*Source: Authors work*

Interesting data was obtained for communications media that are expected when receiving and providing information for studying and classes. The highest percentage for a medium of communication with teachers and students chose to go to class and the school website, to communicate with professional services they chose personal contact at the premises of professional services and the website of the Virovitica College.

## 6. Conclusion

The tenderers on the service market are increasingly moving away from mass marketing and directing to targeted marketing in order to earn greater benefits in terms of attracting consumers and responding to market by well-chosen marketing mix. Therefore it is essential to manage the marketing process because it can be achieved by target marketing, and develop qualitative and efficient marketing plan of action in higher education. To determine which are the most effective marketing media on the example of a higher education institution a survey of students of the first and second year of professional undergraduate studies was conducted. Survey realized that the students get the most information through friends and acquaintances (WOM) and over the internet or website. Which suggests good guidelines for future marketing activities. After analyzing obtained data it was recognized that that the hypothesis were confirmed that higher education



institutions successfully promote its services by selected marketing mix. In the end it can be concluded that the provision of high quality services can realize a positive image of the higher education institution. In doing so, with the use of well chosen marketing media it can realize high-quality marketing story through which higher education institutions can reach out to higher number of potential students - consumers as well as create a College brand. Higher education institutions can not implement such an active marketing policy as a company from the profit sector. Yet by providing high quality at their facility, transferring in this way the message to their customers, they can achieve much more than any other marketing medium.

## REFERENCE

Kotler, P., Wong, V., Saunders, J., Armstrong, G. (2006): *Osnove marketinga*, četvrto europsko izdanje, Mate d.o.o., Zagreb

Pavičić, J., Alfirević, N., Aleksić, L.J. (2006): *Marketing i menadžment u kulturi i umjetnosti*, Zagreb, Masmedia

Ferenčić, M. (2012): *Marketinška komunikacija u digitalnom svijetu*, Praktični menadžment 3. (2012) 2, str. 42-46, <http://hrcak.srce.hr/96980> , (accessed 21.01.2016.)

Kos, A., Trstenjak, M., Kralj, A. (2011): *Moderno marketinško doba u visokoobrazovnom sektoru*, Zbornik Međimurskog veleučilišta u Čakovcu, [hrcak.srce.hr/file/106216](http://hrcak.srce.hr/file/106216) , (accessed 10.02.2016.)

Leko Šimić, M., Čarapić, H. (2007): *Znanje marketinga u funkciji marketinga znanja*, CROMAR, Rijeka, <https://bib.irb.hr/datoteka/346525.cromar07.doc> , (accessed 10.02.2016.)

Mateljan, V., Širanović, Ž., Šimović, V. (2009): *Prijedlog za oblikovanje multimedijских web nastavnih sadržaja prema pedagoškoj praksi u RH*, Informatologia, 42, 2009., 1, 38-44, [file:///C:/Users/zkadlec.VSMTI/Downloads/mateljan%20\(1\).pdf](file:///C:/Users/zkadlec.VSMTI/Downloads/mateljan%20(1).pdf) , (accessed 10.12.2015.)

Orehovački, T., Konecki, M., Radošević, D. (2007): *Web 2.0 i evolucija obrazovanja*, [http://bib.irb.hr/datoteka/318648.Orehovacki\\_Konecki\\_Radosevic\\_IIS2007.pdf](http://bib.irb.hr/datoteka/318648.Orehovacki_Konecki_Radosevic_IIS2007.pdf) ,(accessed 21.12.2015.)

Stanojević, M. (2011): *Marketing na društvenim mrežama*, Mediana 5 (2011) 10, str. 165-180, [http://hrcak.srce.hr/index.php?show=clanak&id\\_clanak\\_jezik=115717](http://hrcak.srce.hr/index.php?show=clanak&id_clanak_jezik=115717) , (accessed 21.01.2016.)

Škare, V. (2011): *Je li potreban novi okvir upravljanja internetskim marketingom*, Tržište 23 (2011) 2, str. 263-279, [http://hrcak.srce.hr/index.php?show=clanak&id\\_clanak\\_jezik=117324](http://hrcak.srce.hr/index.php?show=clanak&id_clanak_jezik=117324) , (accessed 21.02.2016.)

Živković, R., Gajić, J. (2010): *Strategija segmentacije u visokom obrazovanju*, <http://www.singipedia.com/attachment.php?attachmentid=580&d=1275404971>, (accessed 10.01.2016.)

*Agencija za znanost i visoko obrazovanje*, <http://mozvag.srce.hr/preglednik/pregled/hr/tipvu/odabir.html> , (accessed 21.12.2015)

*Marketinški plan Filozofskog fakulteta u Osijeku*, [http://www.ffos.unios.hr/serv\\_file.php?file=2589](http://www.ffos.unios.hr/serv_file.php?file=2589) , (accessed 19.01.2016.)

*Samoanaliza Visoke škole za menadžment u turizmu i informatici u Virovitici*, siječanj 2014.,  
<http://www.vsmi.hr/images/stories/Dokumenti/REAKREDITACIJA/SamoanalizaVisoke%20kole-na%20hrvatskom%20jeziku.pdf>, (accessed 20.02.2016.)

*Strategija razvoja Visoke škole za menadžment u turizmu i informatici u Virovitici (Program rada i razvoja) za razdoblje 2013. – 2017.*,  
<http://www.vsmi.hr/images/stories/Dokumenti/STRATEGIJA%20RAZVOJA%20VSMI%202013%20do%202017%20hrv.pdf>, (accessed 20.02.2016.)

**Sanja Knežević, BSc**

College of Slavonski Brod  
Dr. Mile Budaka 1, 35 000 Slavonski Brod, Hrvatska  
Phone: 035-492-805, Fax: 035-492-804  
E-mail address: sanja.knezevic@vusb.hr

**Lena Duspara, BSc**

College of Slavonski Brod  
Dr. Mile Budaka 1, 35 000 Slavonski Brod, Hrvatska  
Phone: 035-492-805, Fax: 035-492-804  
E-mail address: lena.duspara@vusb.hr

**Dr.sc. Anita Kedačić**

Public Hospital „Dr. Josip Benčević“ of Slavonski Brod  
Andrije Štampara 42, 35000 Slavonski Brod, Croatia  
Phone: 035-201-172 Fax: 035-201-172  
E-mail address: anita.kedacic@bolnicasb.hr

**THE IMPACT OF LOW LEVEL OF ECONOMIC DEVELOPMENT ON THE  
YOUTH LEAVING BROD POSAVINA COUNTY****UTJECAJ NISKE RAZINE RAZVOJA GOSPODARSTVA NA ODLAZAK  
MLADIH IZ BRODSKO POSAVSKE ŽUPANIJE*****ABSTRACT***

*The global crisis has affected the low level development, as on the whole Croatian economy as well as the Brod Posavina County. Economic indicators in the Brod Posavina County have no positive characteristics which has an impact on the backwardness of County compared with other parts of the Croatia. The backwardness in development of the County is in direct relation to negative demographic trend - emigration. Backwardness of Brod Posavina County and ignoring unfavorable trends has an impact on the whole society in Croatia. The low level of economic development, unemployment, political atmosphere, lack of vision and other personal reasons as well as negative demographic trends have special influence on the younger population. That is why every year more and more young people decide to leave the County. Young people should be bearers of demographic renewal, but in Brod Posavina County situation is completely the opposite which further worsens already bad situation. This paper focuses on unfavorable economic and demographic trends which effect on the development of the County. Area of consideration will be substantiated by analysis of the collected statistical data from the census and other publications and by survey results, conducted among full time students of 3rd year of the College of Slavonski Brod, direction Management, direction Plant production, direction Production Engineering, and students of the Faculty of Mechanical Engineering.*

*The aim of this work is to show which are and how the economic indicators influence to the current position Brod Posavina County. Furthermore particular attention wanted to focus on young people and their perception on the situation in Brod Posavina County and the aim is to get answer the questions about respondents' opinion of satisfaction with life in Brod Posavina County and their intension for emigration.*

**Keywords:** *Economic indicators, Demographic trends, Brod Posavina County, backwardness*

## SAŽETAK

*Utjecaj globalne krize očitovao se na nisku razinu razvoja gospodarstva, kako na cijelo hrvatsko gospodarstvo, tako i na Brodsko-posavsku županiju. Ekonomski pokazatelji u Brodsko-posavskoj županiji nemaju pozitivne karakteristike koje dalje imaju utjecaj na zaostajanje županije u usporedbi s ostalim dijelovima Hrvatske. Zaostajanje u razvoju županije je u izravnoj vezi s negativnim demografskim trendom - iseljavanjem. Zaostalost Brodsko posavske županije i ignoriranje nepovoljnih trendova ima utjecaj na cijelo društvo u Hrvatskoj. Niska razina razvoja gospodarstva, nezaposlenost, politička klima, nedostatak vizije i drugi osobni razlozi jednako kao i negativni demografski trendovi imaju poseban utjecaj na mladu populaciju. Zato svake godine sve više i više mladih ljudi donosi odluku o napuštanju Brodsko posavske županije. Mladi ljudi bi trebali biti nositelji demografske obnove, ali u Brodsko-posavskoj županiji situacija je potpuno suprotna što dodatno pogoršava ionako loše trenutno stanje. Ovaj rad se fokusira na nepovoljnim ekonomskim i demografskim trendovima koji utječu na razvoj Brodsko posavske županije. U ovo istraživanje uključena je analiza prikupljenih statističkih podataka iz popisa stanovništva i drugih publikacija i anketa, koja je provedena među redovnim studentima 3. godine Veleučilišta u Slavonskom Brodu, smjer Menadžment, Bilingojstvo, Proizvodno strojarstvo, te studenata Strojarskog fakulteta u Slavonskom Brodu.*

*Cilj ovog rada je prikazati odabrane ekonomske pokazatelje i s obzirom na njih odrediti trenutačnu poziciju Brodsko-posavske županije. Osim toga posebna pažnja je fokusirana na mlade ljude i njihovu percepciju o stanju u Brodsko-posavskoj županiji te je cilj dobiti i mišljenje ispitanika o zadovoljstvu životom u Brodsko-posavskoj županiji te njihovoj namjeri za odlaskom.*

**Ključne riječi:** *ekonomski pokazatelji, demografski trendovi, Brodsko posavska županija, zaostajanje*

### 1. Introduction

It is constantly talking about how many young and perspective people leave Croatia. Unemployment and no satisfaction with the quality of life impel more and more young people to think about leaving Croatia. Availability of information on the Internet simultaneously shows that young people elsewhere in Europe or world have better living conditions. Emigration of young people is the greatest problem of Croatia that also hit the Brod Posavina County. Brod Posavina County is one of the most underdeveloped counties of Croatia, marked by low business activity, high youth unemployment and the emigration of young people. In continuation of the work will be presented which are and how the economic indicators influence to the current low level position of Brod Posavina County. Because it's low level of economic development is the main reason for leaving the County which will be presented with the survey among students.

### 2. Emigration from Brod Posavina County

Area of Brod Posavina County "spreads on 2,034 km<sup>2</sup> which makes 3,61% of the total area of the Republic of Croatia." ([http://www.bpz.hr/opci\\_podaci/polozaj/default.aspx#.VpqoFFJ8E5M](http://www.bpz.hr/opci_podaci/polozaj/default.aspx#.VpqoFFJ8E5M)) Currently Brod Posavina County ranks among the less developed counties in Croatia. „The level of social economic development of the region, or in this case the county is very faithful reflection and a direct indicator of demographic processes and demographic situation of each region.“ (Lajić, 2010, pp.17)

In this area, according to the Central Bureau of Statistics in 2011 there were 158575 inhabitants which is for 18.190 (10,25) less than in year 2001. In 1991 had 174,998 inhabitants. In comparison with previous Censuses can be observed negative trend of population decline. The average

population density is 77,96 inhabitants per km<sup>2</sup>, which is actually above average in Croatia (75,1 per km<sup>2</sup>). Population of Brod-Posavina County is getting older. “The average age is 40.6 years.” (www.dzs.hr) Addition to the above there is also a negative net migration. “Among the counties from which most people emigrating and Brod-posavka where in 2014 emigrated between 2 and 2.5 percent of the population.”(http://www.brodportal.hr/clanak/brodsko-posavska-zupanija-u-vrhu-po-iseljavanju-7915) According to the Central Bureau of Statistics for a period from 2010 to 2014 it is noticeable that total net migrations have negative sign and especially decline after 2012. Except this “the largest share of migrants that migrated is the population from 25 to 29 years (11755).”(www.dzs.hr) The reasons for the trend of emigration are usually economic nature that will be discussed in more detail below.

### 3. Economic indicators in Brod Posavina County

Economic indicators in the Brod Posavina County have no positive characteristics which has an impact on the backwardness of County compared with other parts of the Croatia. In the following chapter will be presented selected economic indicators that represent a cause and a consequence of backwardness of Brod Posavina County. Economic indicators that will be analyzed are share in GDP, unemployment, and the coefficient of development. The following table shows the unemployment rate from 2010 to 2014.

*Table 1 Unemployment rate (%)*

County	2010.	2011.	2012.	2013.	2014.
Požega-Slavonia	23,5	24,4	26,5	28,2	26,1
<b>Brod-Posavina</b>	<b>30,6</b>	<b>31,9</b>	<b>32,7</b>	<b>33,9</b>	<b>31,3</b>
Osijek-Baranja	27,0	26,6	28,2	30,1	30,9
Vukovar-Syrmia	30,2	29,6	32,1	34,7	33,7
Virovitica-Podravina	30,1	30,5	33,5	34,2	34,3
Zagreb	17,8	18,3	19,9	21,8	20,8
Krapina-Zagorje	16,7	17,9	20,0	20,4	18,7
Sisak-Moslavina	30,4	29,8	32,9	33,9	34,5
Karlovac	24,9	24,1	24,5	24,9	24,3
Varaždin	13,5	13,7	14,7	15,3	13,4
Koprivnica-Križevci	16,6	16,4	19,0	21,2	19,5
Bjelovar-Bilogora	26,7	25,9	26,8	28,5	29,8
Primorje-Gorski Kotar	13,3	13,2	14,0	14,6	14,2
Lika- Senj	19,3	18,6	18,4	19,6	20,7
Zadar	18,0	17,4	18,2	18,6	16,3
Šibenik-Knin	21,1	20,5	21,2	21,7	20,7
Split-Dalmatia	20,5	21,4	23,3	24,3	23,7
Istria	8,5	8,5	8,9	9,6	8,4
Dubrovnik-Neretva	14,9	14,7	15,3	16,1	16,5
Međimurje	15,4	14,8	16,6	17,0	15,4
City of Zagreb	7,8	8,2	8,8	9,5	9,2

Source: [http://www.hzz.hr/UserDocsImages/Analiticki\\_bilten\\_2014-4.pdf](http://www.hzz.hr/UserDocsImages/Analiticki_bilten_2014-4.pdf)

Table 1 shows that permanent high unemployment rate is one of the key social and economic problems in Croatia as well as in Brod-Posavina County. It is noticed a tendency of growth from 2010 to 2013. In 2010 and 2011 Brod Posavina has the highest unemployment rate in Croatia. Although in 2014 unemployment rate decreased, the highest rate of unemployment in Croatia in 2014 was 34,5% which is proof that Brod Posavina County still has one of the higher unemployment rate (31,3%). In the area of Croatia the highest unemployment rate in 2014 has Sisak Moslavina County and the smallest of only 8,4% Istria County.

Although the Brod Posavina County, especially Slavonski Brod has always been an important industrial center no utilization of an extremely large potential Brod Posavina outlines unfortunately the lowest GDP per capita. Brod Posavina County has one of the lowest GDP per capita in Croatia. The following table shows the GDP per capita by counties from 2010 to 2013.

*Table 2 GDP per capita by counties, in HRK*

County	2010.	2011.	2012.	2013.
Požega-Slavonia	44 105	46 692	45 866	46 214
<b>Brod-Posavina</b>	<b>39030</b>	<b>43726</b>	<b>43999</b>	<b>44366</b>
Osijek-Baranja	54 929	61 485	60 835	61 503
Vukovar-Syrmia	40 224	46 220	45 077	45 629
Virovitica-Podravina	42 761	47 080	46 599	45 764
Zagreb	52 202	57 885	58 567	58 930
Krapina-Zagorje	44 338	46 835	46 956	48 321
Sisak-Moslavina	60 924	61 064	61 250	59 390
Karlovac	53 946	57 310	57 288	58 792
Varaždin	59 811	61 592	62 396	63 734
Koprivnica-Križevci	58 918	63 372	68 831	66 404
Bjelovar-Bilogora	48 966	52 501	51 713	51 785
Primorje-Gorski Kotar	89 936	94 593	98 556	97 924
Lika- Senj	60 315	60 078	58 362	59 384
Zadar	59 612	61 721	61 411	61 899
Šibenik-Knin	57 469	58 955	59 152	60 975
Split-Dalmatia	58 814	60 007	59 200	59 444
Istria	93 968	96 576	95 298	96 268
Dubrovnik-Neretva	76 189	72 905	74 129	75 501
Međimurje	57 450	62 887	63 415	64 231
City of Zagreb	135 853	137 558	139 119	137 321

Source: authors made by [www.dzs.hr](http://www.dzs.hr)

Table 2 shows that Brod Posavina County has one of the lowest GDP per capita. From 2010 to 2013 it is noticed a tendency of growth, but despite this in the observed period Brod Posavina County is the County with the worst GDP per capita. In the area of Croatia the highest GDP per capita has the City of Zagreb and the smallest Brod Posavina County. According to Bureau of Statistics gross domestic product in 2013 at the level of the Croatian was 329.57 billion HRK which is 0.3% less than in 2012 and represents the second year in a fall in GDP. Shares of individual counties in the total GDP of the Republic of Croatia did not change significantly.

Table that follows shows the index of development. "Index of development was defined is a composite indicator that is calculated as a weighted average of more basic socio-economic indicators to measure the degree of development of local and regional (regional) governments and are based on the deviation value indicators than the national average of local and regional (regional) governments are divided into groups development." (<https://razvoj.gov.hr/o-ministarstvu/regionalni-razvoj/indeks-razvijenosti/112>)

*Table 3 Index of development for 2013*

County	Index of development	Skupine
Požega-Slavonia	33,81	☐ 75% I.
<b>Brod-Posavina</b>	<b>18,43</b>	☐ 75% I.
Osijek-Baranja	46,07	☐ 75% I.
Vukovar-Syrmia	18,73	☐ 75% I.
Virovitica-Podravina	5,56	☐ 75% I.
Zagreb	124,23	100-125% III.
Krapina-Zagorje	73,24	☐ 75% I.
Sisak-Moslavina	38,70	☐ 75% I.

County	Index of development	Skupine	
Karlovac	56,34	□ 75%	I.
Varaždin	86,34	75-100%	II.
Koprivnica-Križevci	59,19	□ 75%	I.
Bjelovar-Bilogora	23,29	□ 75%	I.
Primorje-Gorski Kotar	139,21	□ 125%	IV.
Lika- Senj	64,82	□ 75%	I.
Zadar	106,39	100-125%	III.
Šibenk-Knin	80,93	75-100%	II.
Split-Dalmatia	93,75	75-100%	II.
Istria	156,80	□ 125%	IV.
Dubrovnik-Neretva	120,84	100-125%	III.
Medimurje	69,65	□ 75%	I.
City of Zagreb	186,40	□ 125%	IV.

Source: Authors made by to Nacionalno vijeće za konkurentnost 2014, pp.24

Table 3 shows that by ranking the competitiveness and development of the 2013 Brod Posavina County is located at the back of the least competitive Croatian counties and in the group of counties with the lowest development index (below 75% of the Croatian average). This indicates that their competitiveness is also the reason for their lack of development.

#### 4. Youth opinion on satisfaction with life in Brod Posavina County and their intension for emigration

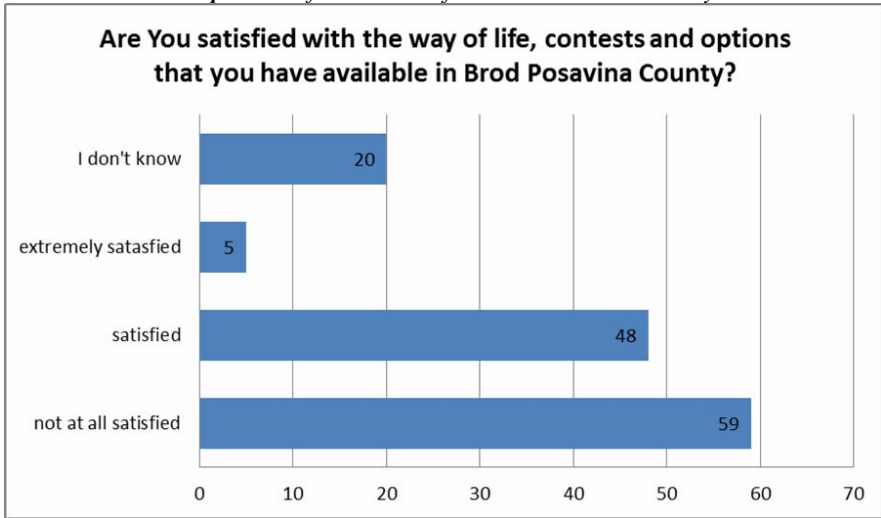
Considering the purpose of this study, selected population are young people, who are currently living in Brod Posavina County. Students of 3rd years of study are in the period of life when begin to think more intensively about their future. Taken into consideration that it is relevant to examine their view of life in Brod Posavina County.

In accordance with the objectives of the research, it has been prepared survey. For the purpose of collecting these data was created an instrument in the form of online survey, and used Google services for creating online surveys (Google Docs Survey). The survey was conducted in January 2015 per 131 full time students.

##### 4.1. Analysis of the survey

The survey was conducted on a representative sample of 131 respondents – students of Brod Posavina County. Among the surveyed respondents 32,1% of them were students of Management, 25,2% were students of Plant production, 21,4% were students of Production Engineering and also 21,4% were students of Faculty of Mechanical Engineering. Although all respondents currently live in Brod Posavina County, the great majority of them 68% has a permanent residence in Brod Posavina County. The following graph shows the respondents' opinions about Satisfaction with life in Brod Posavina County.

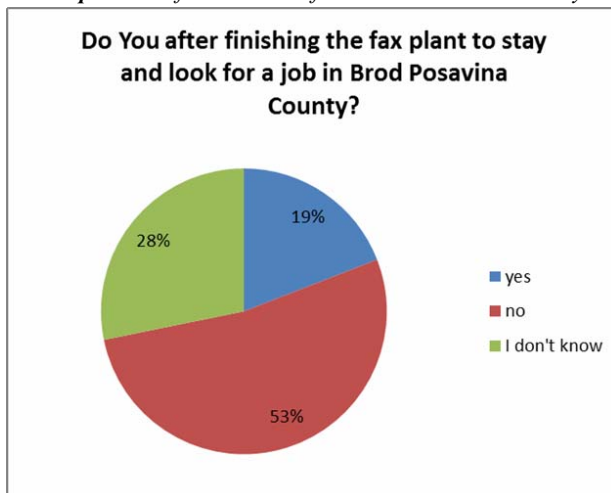
**Graph 1** Satisfaction with life in Brod Posavina County



Source: Made by Authors

The obtained results show that 45% of respondents are not at all satisfied with life in Brod Posavina County which is a large percentage, 36,6% are satisfied, extremely satisfied are only 3,8% and 15,3 didn't declare. The following graph shows the respondents' opinions if they plant to stay and look for a job in Brod Posavina County.

**Graph 2** Satisfaction with life in Brod Posavina County

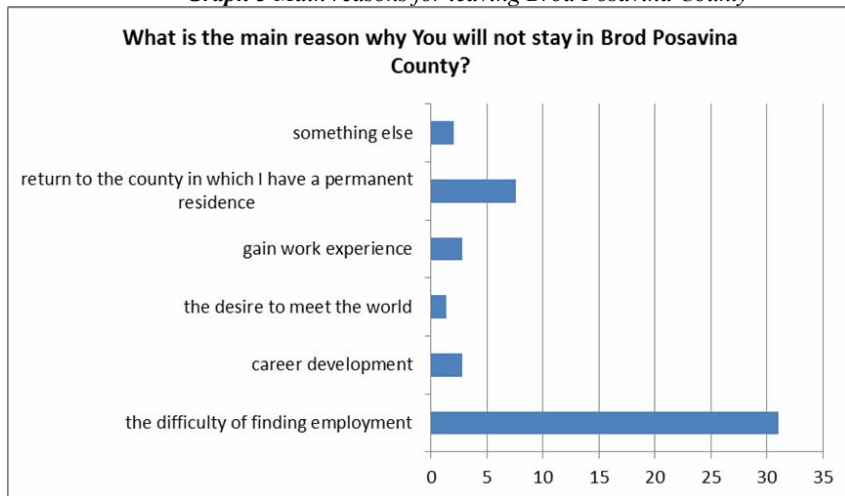


Source: Made by Authors

The obtained results show that 53% of respondents are not planning to stay in Brod Posavina, 28% of respondents still don't know, and only 19% of respondents will stay in County. The following graph shows the respondents' answer why they don't want to stay in Brod Posavina County. The following two questions answered only respondents (69) who plan to leave Brod Posavina County.



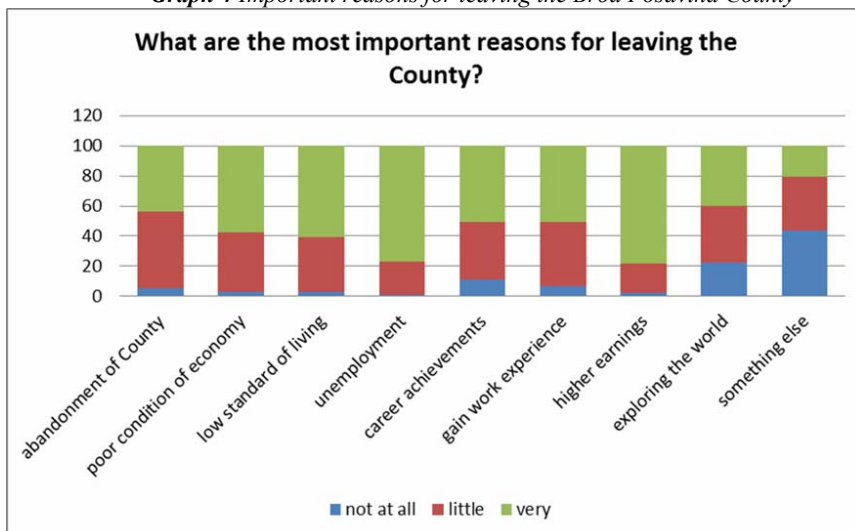
**Graph 3** Main reasons for leaving Brod Posavina County



Source: Made by Authors

The obtained results show that 31% of respondents aren't plan to stay in Brod Posavina because of the difficulty of finding employment, 7,6% will return to the county in which they have permanent residence, 2,8% of respondents gain work experience and want to develop career, 2,07% of respondents stated something else and only 1,38% of respondents will leave the county because they want to meet the world. According to the results unemployment is the greatest problem. It can be assumed that more young people will stay in the County if they have employment opportunities. The following graph shows the respondents' opinion why people leave Brod Posavina County.

**Graph 4** Important reasons for leaving the Brod Posavina County



Source: Made by Authors

The obtained results show that all listed reasons are little and very important for leaving the County, of which the most important are unemployment (for 76,7% of respondents is very important) and

higher earnings (for 78,1% of respondents is very important). As the least important reason leaving stated something else (for 44% of respondents this reason is not important at all) and exploring the world (for 22% of respondents this reason is not important at all). As well as the previous question unemployment is the greatest problem for young people in Brod Posavina County.

## 5. Conclusion

Condition of the economy in Brod Posavina County is very difficult, positive developments have, but their intensity is not sufficient to felt in terms of a serious economic growth, job creation, or that it would turn the citizens felt the better standard of living. In the observed five year period Brod Posavina County shows poor results in all economic indicators. Due to such situation is not surprising that the majority of respondents feel chronic dissatisfaction with life in Brod Posavina County. The backwardness in development of the County is in direct relation to negative demographic trend – emigration. Lack of employment opportunities, low standard, low wages are the most frequent reasons that young people cite when explained that they want to ever go from Brod Posavina County. Unemployment is, of course, the main reason for youth leaving Brod Posavina County. Emigration from Brod Posavina County to the demographic developments has major consequences and traces of which remain permanent. The possibility of hiring as well as their retention in the county is the key to survival and growth and this is what should be the main objective of the County.

## REFERENCES

- Brod Posavina County, official website,  
[http://www.bpz.hr/opci\\_podaci/polozaj/default.aspx#.VpqoFFJ8E5M](http://www.bpz.hr/opci_podaci/polozaj/default.aspx#.VpqoFFJ8E5M) (accessed 29 February 2016)
- Croatian Bureau of Statistics, [www.dzs.hr](http://www.dzs.hr) (accessed 27 February 2016)
- Croatian Employment Service, [http://www.hzz.hr/UserDocsImages/Analiticki\\_bilten\\_2014-4.pdf](http://www.hzz.hr/UserDocsImages/Analiticki_bilten_2014-4.pdf)  
(accessed 16 February 2016)
- Čalić, I. (2015): *Brodsko-posavska županija u vrhu po iseljavanju*,  
<http://www.brodportal.hr/clanak/brodsko-posavska-zupanija-u-vrhu-po-iseljavanju-7915> (accessed 29 February 2016)
- Lajić, I. (2010): *Migracije i demografski razvoj regije*, Institut za migracije i narodnosti, Zagreb  
Ministarstvo regionalnog razvoja i fondova Europske unije, <https://razvoj.gov.hr/o-ministarstvu/regionalni-razvoj/indeks-razvijenosti/112> (accessed 03 March 2016)
- Nacionalno vijeće za konkurentnost. (2014): *Regionalni indeks konkurentnosti Hrvatske*, Program Ujedinjenih naroda za razvoj (UNDP) Hrvatska, Zagreb

**Emira Kozarević, PhD**

Faculty of Economics, Tuzla University  
Univerzitetska 8, 75000 Tuzla, BiH  
Phone: +387 35 320 820 Fax: +387 35 320 821  
E-mail: emira.kozarevic@untz.ba

**Meldina Kokorović Jukan, PhD**

Faculty of Economics, Tuzla University  
Univerzitetska 8, 75000 Tuzla, BiH  
Phone: +387 35 320 820 Fax: +387 35 320 821  
E-mail: meldina.kokorovic@untz.ba

**Jasmina Džafić, MA**

Faculty of Economics, Zenica University  
Fakultetska 3, 72000 Zenica, BiH  
Phone: +387 32 460 440 Fax: +387 32 460 441  
E-mail: jasmina.dzafic@ef.unze.ba

**IMPORTANCE OF FINANCIAL LITERACY FOR ORGANIZATIONAL  
DECISION MAKING TOWARDS ECONOMIC GROWTH: EVIDENCE  
FROM TUZLA CANTON, BOSNIA AND HERZEGOVINA**

**VAŽNOST FINACIJSKE PISMENOSTI KOD DONOŠENJA  
ORGANIZACIJSKIH ODLUKA USMJERENIH KA EKONOMSKOM  
RASTU: DOKAZI IZ TUZLANSKOG KANTONA, BOSNA I  
HERCEGOVINA**

**ABSTRACT**

*Financial knowledge and literacy of the executive management plays an important role in their ability to make important financial decisions. In the aftermath of the global financial crisis the policymakers worldwide expressed deep concern about the lack of financial knowledge and, as the recent research has suggested, lack of financial literacy amongst different population groups. Faced with a wide variety of available financial products and services today both individuals and company management need to be able to make informed financial decisions. The quality of these decisions will greatly depend on the level of knowledge of the decision makers, including their financial literacy. It has been argued that financial literacy could be one of the key factors of economic growth, as decisions made by management directly affect the business, financial performance and, ultimately, overall economy. The main purpose of this paper is to evaluate perceptions of the decision makers of the companies of Tuzla Canton, Bosnia and Herzegovina, with regards to financial literacy construct and the overall importance of financial literacy in their decision making process. As part of this study, the level of financial literacy of decision makers and employees in Tuzla Canton companies was also explored and evaluated. The research, conducted on a random sample of managers and employees of the companies in Tuzla Canton, showed that company managers are aware of the importance of financial literacy and that they would like to see the financial education becoming a development priority for all employees. While the results*

indicated that the current financial literacy of the research sample is rather satisfactory, it is clear that the level of financial awareness and literacy can be directly correlated with higher levels of education.

**Keywords:** financial literacy, decision making, financial knowledge, economic growth, Tuzla Canton

## SAŽETAK

*Financijska znanja i pismenost izvršnog menadžmenta igraju važnu ulogu u njihovoj sposobnosti donošenja važnih financijskih odluka. U razdoblju nakon globalne financijske krize kreatori politika širom svijeta izrazili su duboku zabrinutost zbog nedostatka financijskog znanja te, kao što recentna istraživanja pokazuju, nedostatka financijske pismenosti među različitim skupinama stanovništva. Suočeni s širokim izborom dostupnih financijskih proizvoda i usluga danas, i pojedinci i menadžeri kompanija trebaju biti u stanju da donose informirane financijske odluke. Kvalitet tih odluka uvelike će ovisiti o nivou znanja, uključujući i financijsku pismenost, donosilaca odluka. Smatra se da financijska pismenost može biti jedan od ključnih faktora ekonomskog rasta, budući da odluke koje donosi menadžment direktno utječu na poslovanje, financijske performanse i, u konačnici, cjelokupnu ekonomiju. Glavna svrha ovog rada je ocijeniti percepcije donositelja odluka u kompanijama Tuzlanskog kantona, Bosna i Hercegovina, spram koncepta financijske pismenosti i ukupne važnosti financijske pismenosti za proces odlučivanja. Također, kao dio ove studije istražen je i evaluiran nivo financijske pismenosti donositelja odluka i zaposlenika u kompanijama Tuzlanskog kantona. Istraživanje, provedeno na slučajnom uzorku menadžera i zaposlenika kompanija na području Tuzlanskog kantona, pokazalo je da su menadžeri kompanija svjesni važnosti financijske pismenosti i da bi htjeli da financijsko obrazovanje postane prioritet razvoja za sve zaposlenike. Iako su rezultati pokazali da je trenutna financijska pismenost uzorka istraživanja prilično zadovoljavajuća, jasno je da se nivo financijske svijesti i pismenosti može direktno povezati sa višim razinama obrazovanja.*

**Ključne riječi:** financijska pismenost, donošenje odluka, financijsko znanje, ekonomski rast, Tuzlanski kanton

## Introduction

Today, in the aftermath of the global financial crisis, the sound financial decisions in an organization play the key role of its survival in the turbulent surroundings. In that respect, financial literacy can be observed as a precondition for effective financial decision making. Absence of financial literacy among decision makers at any organization level can be regarded as a communication barrier leading to the uncertainties in the decision making process. According to Smith, decision making under conditions of uncertainty always provides the possibility of sub-optimal choices: psychological evidence suggests that managers may act in a biased and irrational manner with regards to their tolerance of both risk and ambiguity (Smith, 2005, 59). It can be argued that more than ever before there is a need for greater financial literacy among general public, but also across all managerial levels. Nowadays, financial management responsibilities are more distributed across the organization and no longer the exclusive domain of the chief financial officer (CFO). This demands a higher degree of financial literacy from managers throughout the organization (Beauchamp & Hicks, 2005, 16).

Recognizing financial literacy as the important factor in decision making process within any organization, this paper addresses the issue of financial literacy construct as an interface between financial information and the decisions made by organizational leadership. It provides a theoretical discussion on the importance of financial literacy among the organizational roles entrusted with the decision making responsibility.

Furthermore, this paper aims to evaluate perceptions of the decision makers, with regards to financial literacy construct and the overall importance of financial literacy in their decision making process. As part of this study, the level of financial literacy of organizational decision makers is also explored and evaluated. The research is conducted on a random sample of managers and employees of the companies in Tuzla Canton, Bosnia and Herzegovina.

The first part of the paper presents a theoretical background into previous research efforts and different approaches to financial literacy construct definition, including evaluation and measurement of financial literacy among individuals within the context of organizational decision making. The second part describes the research methodology and sample structure. The third and final part of the paper discusses and presents the results of the assessment of the link between financial literacy and the organizational decision making processes and responsibilities, including the financial literacy assessment of the individuals employed in selected Tuzla Canton companies.

## **1. Theoretical background and previous research on financial literacy**

Academic literature provides numerous definitions of financial literacy as well as variety of methods for measuring the level of financial literacy among the population. Atkinson and Messy (2012, 14), for example, define financial literacy as a combination of awareness, knowledge, skills, attitude, and behaviors necessary to make sound financial decisions and, ultimately, achieve individual financial wellbeing. This definition implies that financially literate persons would have sufficient financial knowledge and skills to put this knowledge in use when making financial decisions. Stachen and Nelson (2013, 77) recognize that financial literacy also includes one's ability to understand basic information about financial products and services. For the purposes of further investigation within the financial literacy construct, we consider that being financially literate means having the ability to make sound financial decision on both individual and company level.

Over the past two decades the concepts associated with financial literacy and decision making at the household and individual levels have been a popular topic in academic and financial literature. From the individual decision making perspective, we can select a few interesting research efforts concentrated on measuring financial literacy among different population and geographical groups (Lusardi, 2008, 2013; Lusardi & Mitchell, 2006, 2014; Alessie et al., 2011; Atkinson and Messy, 2011; Agnew et. al., 2013; *etc.*). Lusardi (2008) suggests that the level of individual financial literacy directly impacts on the financial decision making. For example, ignorance of basic financial concepts resulting in behaviors such as poor retirement planning, uncontrolled borrowing, lack of participation in the stock market etc. Many countries have recognized this problem and have started implementing programs and other research initiatives aimed at increasing the overall financial literacy of their residents.

On the other hand, the research efforts are fewer on the topic of the connection between financial literacy and decision making at the organizational level. Most probably, the lack of academic interest in this topic is based on the assumption that companies hire financially

literate managers, educated to make sound financial decisions. However, the number of companies filing for bankruptcy and facing insolvency seems to be continuously increasing. Especially in the aftermath of the global financial crisis we can observe strong indicators that many managers do not always make sound financial decisions. This raises two questions that are especially relevant to developing countries. The first question is related to the assessment of the level of financial literacy among decision makers in organizations, while the second is related to perceptions of the financial literacy construct among employees in different type of organizations. One of the most influential discussions related to the dependency between financial literacy level of executives and the decision making processes within organizations can be found in the research paper of Gouws and Shuttleworth (Gouws & Shuttleworth, 2009).

**2. Research method and sample**

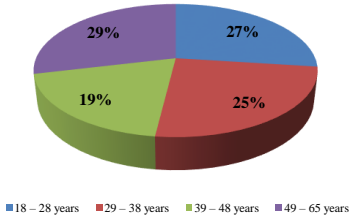
In order to assess the level of financial literacy among the targeted population, a questionnaire was developed, focusing on the following areas:

- Assessment of the notion of financial literacy concept by individuals, aiming to assess the perceptions of financial literacy of individuals participating in different level of decision making within an organization;
- Assessment of the level of financial literacy among individuals using a set of four questions on understanding basic financial concepts.

The set of questions used in this survey was first developed and used in 2004 for the Health and Retirement Study (HRS) in the USA in the evaluation of financial literacy among elderly population (Lusardi, 2006). Furthermore, this set of questions became a worldwide benchmark for evaluating financial literacy level among individuals (Hung et al. 2009; Lusardi, 2013).

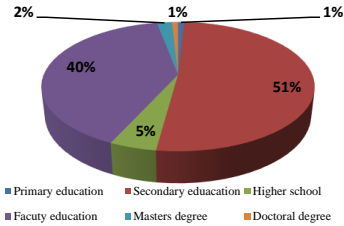
The survey sample included 243 individuals employed in companies located in Tuzla Canton, Bosnia and Herzegovina. The sample was stratified based on the following characteristics: gender, age, education, economic sector, and position within organization. With respect to gender, the sample included 40% males and 60% females. The structure of the sample with regards to age, education, economic sector, and positing within organization is presented in figures 1, 2, 3, and 4, respectively.

**Figure 1:** Sample structure with respect to age



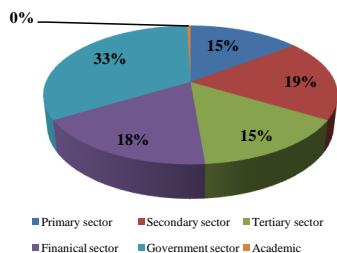
Source: Author’s research

**Figure 2:** Sample structure with respect to education

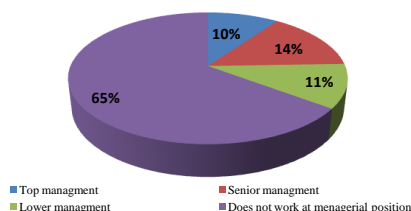


Source: Author’s research

**Figure 3:** Sample structure with respect to economic sector



**Figure 4:** Sample structure with respect to position within organization



Source: Author's research

### 3. Results and discussion

#### 3.1. Assessment of the need for financial literacy for decision making in organization

In order to assess the need for financial literacy for the purposes of decision making in organizations, each surveyed person was asked to share their individual perceptions of the current status or need for financial literacy for decision making in organizations. The research findings are summarized in Table 1.

**Table 1:** Individual perceptions of the need for financial literacy for decision making in organization

Questions	Strongly disagree	Disagree	Unsure	Agree	Strongly agree	Total
1. Financial literacy mitigates the risks involved in decision making.	1.29%	3.00%	9.44%	63.95%	22.32%	100%
2. Financial literacy is a process to be followed rather than an achieved result.	0.00%	10.73%	12.02%	57.94%	19.31%	100%
3. It will be to the overall benefit of your organization if decision makers at all levels are financially literate.	0.00%	0.86%	9.01%	47.64%	42.49%	100%
4. Employees in your organization do not need financial training to understand the basics of how business success is measured.	15.45%	54.08%	10.73%	17.17%	2.58%	100%
5. Senior managers have to understand the meaning of financial ratios in order to evaluate their organization's performance.	0.43%	0.87%	16.45%	55.41%	26.84%	100%

Questions	Strongly disagree	Disagree	Unsure	Agree	Strongly agree	Total
6. Managers seldom admit that they do not know how to read their organization's financial statements.	0.43%	4.72%	19.74 %	48.07 %	27.04%	100%
7. In general, there is a shortage of financially literate people in decision making positions.	0.43%	2.15%	11.59 %	48.50 %	37.34%	100%

Source: Author's research

With respect to the importance of financial literacy among decision makers in organization, the surveyed persons were asked to assess the importance of financial literacy in the process of decision making. The survey shows that the majority of the surveyed persons agree that the financial literacy mitigates the risks involved in the decision making. The more financially literate organizational managers are, the better decisions they make when it comes to trade-off between risk and return. More than 77% of the surveyed persons believe that financial literacy is a process to be followed rather than seeing it as an achieved result. In the constantly changing environment, managers need to continuously improve their financial knowledge and adapt to the changes. Only 10% of the surveyed persons did not believe that decision makers with higher financial literacy would bring the overall benefit to the organization they work for.

When it comes to the assessment of the level of financial literacy among decision makers at all organization levels, 54.08% of the surveyed persons disagrees and 15.45% strongly disagrees that the employees in their organization do not need financial training to understand the basics of how business success is measured. Furthermore, the majority of the surveyed persons agrees or strongly agrees that senior managers would have to understand the meaning of financial ratios in order to evaluate their organization's performance. Moreover, most of the surveyed persons agrees (48.07%) or strongly (27.04%) that managers rarely admit that they do not know how to read their organization's financial statements.

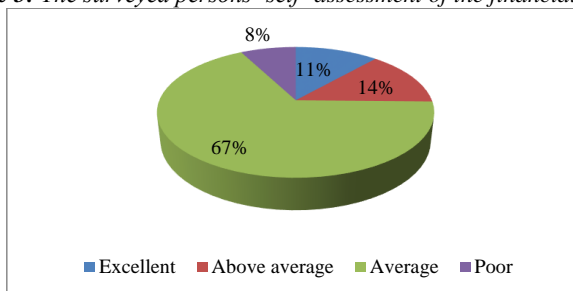
Lastly, the general opinion of the surveyed persons is that there is a shortage of financially literate people in the decision making positions.

### **3.2. Assessment of the level of financial literacy among individuals**

In order to assess the level of financial literacy among the surveyed persons, the first question they asked was to self -assess the level of own financial knowledge. The results are shown in figure 5.



**Figure 5:** The surveyed persons' self-assessment of the financial knowledge



Source: Author's research

As it can be observed from the figure above, 67% of the surveyed persons assessed their financial knowledge as average, while less than 15% saw their financial knowledge above average, and 11% valued their financial knowledge as excellent.

Furthermore, Table 2 presents the assessment results of the level of financial literacy among the surveyed persons, based on their answers to the set of questions on financial literacy.<sup>1</sup>

**Table 2:** Assessment of the level of financial literacy among the surveyed persons

Question	Simple interest	Inflation	Compounding interest	All questions answered correctly
Correct	95.30%	73.82%	37.39%	31.91%
Incorrect	1.28%	8.15%	33.91%	40.01%
Did not know	3.42%	18.03%	28.70%	28.08%*
Total	100%	100%	100%	100%

\* Percentage calculated based on the number of the surveyed persons who did not know at least one answer to the question or did not answer at all.

Source: Author's research

As Table 2 shows, the majority of the surveyed persons answered correctly the first (95.30%) and second question (73.82%), while just above one third of the surveyed persons (37.39%) answered the third question correctly. Almost one third of the surveyed persons (31.9%) answered all three questions correctly. If this number is compared to the worldwide survey results on financial literacy (Lusardi, 2013, 2), the surveyed persons have a higher level of financial literacy than their counterparts in the USA and Japan.

Table 3 presents the assessment of the financial literacy levels among the surveyed persons with respect to their education level. As the table shows, financial literacy level increases with the level of education.

**Table 3:** Assessment of the level of financial literacy with respect to education level

Education level	Percentage of the correctly answered questions		
	Simple interest	Inflation	Compounding interest
Primary education	100%	0%	0%
Secondary education	94%	67%	29%
Higher school	100%	82%	27%
Faculty education	96%	80%	47%
Master degree	100%	100%	60%
Doctoral degree	100%	100%	100%

Source: Author's research

Table 4 presents the assessment of the financial literacy levels among the surveyed persons with respect to their managerial position in organization.

**Table 4:** Assessment of the level of financial literacy with respect to managerial position in organization

Managerial position	Percentage of the correctly answered questions			
	Simple interest	Inflation	Compounding interest	All questions answered correctly
Top management	100%	87%	30%	30%
Senior management	97%	74%	50%	44%
Lower management	100%	72%	40%	32%
Does not work at managerial position	93%	72%	34%	29%

Source: Author's research

## Conclusion

Theoretical background shows and empirical results confirm that financial literacy among organizational managers at all levels can be observed as one of the basic requirements needed for sound financial decision making in organizations.

Empirical study conducted among the sample of individuals in Tuzla Canton, Bosnia and Herzegovina shows that company managers are aware of the importance of the financial literacy construct. Furthermore, results show that financial education needs to become a development priority for all employees within organization.

While the results indicate that the current financial literacy of the research sample is rather satisfactory, it is clear that the level of financial awareness and literacy can be directly correlated with the level of education.

In order to overcome the gap between the understanding of financial information and the decision making processes and dynamics in organizations, the decision makers need to be

aware of their financial literacy levels. In that respect, the further step would be to developed financial industry-specific literacy courses for decision makers and employees in organizations.

## REFERENCES

Agnew, J. R., Bateman, H. & Thorp, S. (2013), *Financial Literacy and Retirement Planning in Australia*, Numeracy, 6(1), 1-25.

Alessie, R., van Rooij, M. & Lusardi, A. (2011), *Financial Literacy and Retirement Preparation in the Netherlands*, Journal of Pension Economics and Finance, 10(4), 527-545.

Atkinson, A., & Messy, F. (2011), *Assessing Financial Literacy in 12 Countries: An OECD/INFE International Pilot Exercise*, Journal of Pension Economics and Finance, 10(4), 657-665.

Atkinson, A. & Messy, F. A. (2012), *Measuring Financial Literacy: Results of the OECD INFE Pilot Study*, OECD Working Papers on Finance, Insurance and Private Pensions, No. 15, OECD Publishing.

Beauchamp, S. & Hicks, C. (2005), *Financial Management and Effectiveness in Public Service Organizations: the UK's CIPFA FM Model*, Government Finance Review, June, 12-19.

Gouws, D. G. & Shuttleworth, C. C. (2009): *Financial Literacy: An Interface between Financial Information and Decision-Makers in Organizations*, Southern African Business Review, 13(2), 141-165.

Hung, A. A., Parker, A. M. & Yoong, J. K. (2009), *Defining and Measuring Financial Literacy*, Working paper WR-708, RAND Corporation. Available at: [https://www.rand.org/content/dam/rand/pubs/working\\_papers/2009/RAND\\_WR708.pdf](https://www.rand.org/content/dam/rand/pubs/working_papers/2009/RAND_WR708.pdf), Accessed: February 12, 2016.

Lusardi, A. & Mitchell, O. S. (2006), *Financial Literacy and Planning: Implications for Retirement Wellbeing*, Working Paper, Pension Research Council, Wharton School, University of Pennsylvania. Available at: <http://www.dartmouth.edu/~alusardi/Papers/FinancialLiteracy.pdf>, Accessed: February 10, 2016.

Lusardi, A. (2008), *Financial Literacy: An Essential Tool for Informed Consumer Choice?* NBER Working Paper No. 14084. Available at: <http://www.nber.org/papers/w14084.pdf>, Accessed: February 21, 2016.

Lusardi, A. (2013), *Financial Literacy around the World (FLAT World)*, FINRA Investor Education Foundation. Available at: <http://www.finrafoundation.org/web/groups/foundation/@foundation/documents/foundation/p240590.pdf>, Accessed: March 4, 2016.

Lusardi, A. & Mitchell, O. S. (2014), *The Economic Importance of Financial Literacy: Theory and Evidence*, Journal of Economic Literature, 52(1), 5-44.

Staschen, S. & Nelson, C. (2013), *The Role of Government and Industry in Financial Inclusion*, in: Ladgerwood, J., Earne, J. & Nelson, C. (Eds.) (2013) *The New Microfinance Handbook – A Financial Market System Perspective* (pp. 76-77), Washington DC: World Bank.

Smith, M. (2005), *Performance Measurement and Management: A Strategic Approach to Management Accounting*, London: Sage Publications.

---

<sup>1</sup> The set of questions included the three following questions related to simple interest, inflation and compounding interest:

- a) Suppose you had BAM 100 in a savings account and the interest rate was 2% per year. After 5 years, how much do you think you would have in the account if you left the money to grow?  
(1) *More than BAM 102.* (2) *Less than BAM 102.* (3) *Exactly BAM 102.* (4) *Do not know.*
- b) Imagine that the interest rate on your savings account was 1% per year and inflation was 2% per year. After 1 year, how much would you be able to buy with the money in this account?  
(1) *More than today.* (2) *Exactly the same.* (3) *Less than today.* (4) *Do not know.*
- c) If interest rates rise, what will typically happen to bond prices?  
(1) *They will rise.* (2) *They will fall.* (3) *Do not know.*

**Anita Kulaš, PhD**  
College of Slavonski Brod  
Dr. Mile Budaka 1, 35000 Slavonski Brod  
Phone: 035/492-633 Fax: 035/492-804  
E-mail address: anita.kulas@vusb.hr

## **ANALYSIS OF LABOUR FORCE AND (UN)EMPLOYMENT IN REPUBLIC OF CROATIA AND SELECTED MEMBER STATES OF EUROPEAN UNION**

### **ANALIZA RADNE SNAGE I (NE)ZAPOSLTENOSTI U REPUBLICI HRVATSKOJ I ODABRANIM DRŽAVAMA ČLANICAMA EUROPSKE UNIJE**

#### **ABSTRACT**

*Every country in the world should continuously take care of its citizens, trying to improve their quality of life, and living standards. This quality is partly achieved by investing in people, and in their education. In this way citizens will find it easier to enter the labour market. But the problem often lies in the structure of the labor force, consisting of employed and unemployed persons classified by economic activity. Employed are all persons who have signed a work contract with the employer, regardless of whether it is based on a definite or indefinite period of time, regardless of the length of working hours and the property of the employer, or the legal entity. Unemployed persons are all fully or partly capable persons to work at the age of 15-65 years, who are not employed and who are regularly registered at the Employment Service.*

*For the purpose of the work a detailed analysis of the labor force and unemployment and employment in selected EU Member States in the period from 2001 to 2013. Therefore, before the Croatian accession to the European Union. The analyzed countries are the Republic of Croatia, the Republic of Austria, the Republic of Bulgaria and the Czech Republic. It analyzed the labor force, employed and unemployed in relation to the total population of each state, and the criteria were gender (male, female), age group (15-24 years, 25-54 years, 55-64 years), geographical coverage (urban, rural) and level of education (primary education, secondary education, higher education).*

**Key words:** labour force, employment, unemployment, sex, age group, education

#### **SAŽETAK**

*Svaka država svijeta trebala bi kontinuirano voditi računa o svojim građanima, pokušavajući im poboljšati kvalitetu života, odnosno životnog standarda. Ta se kvaliteta jednim dijelom postiže ulaganjem u ljude, odnosno u njihovo obrazovanje. Na taj način građanima je olakšan pristup tržištu rada. No, problem često leži u strukturi radne snage, koju čine zaposlene i nezaposlene osobe razvrstane prema ekonomskoj aktivnosti. Zaposlene su sve one osobe koje imaju zasnovan radni odnos s poslodavcem, bez obzira je li on zasnovan na određeno ili neodređeno vrijeme, nezavisno o duljini radnog vremena te vlasništvu poslodavca, odnosno pravne osobe. Nezaposlene osobe su sve sposobne ili djelomično sposobne osobe za rad u dobi od 15 do 65 godina, koja nije u radnom odnosu i koja se redovno prijavljuje u zavod za zapošljavanje.*

*Za potrebe rada provedena je detaljna analiza radne snage te nezaposlenosti i zaposlenosti u odabranim državama članicama Europske unije u razdoblju od 2001. do 2013. godine. Analizirane države su Republika Hrvatska, Republika Austrija, Republika Bugarska i Republika Češka. Analiza*

*je napravljena prema broju stanovnika, a obuhvatila je radnu snagu te (ne)zaposlene prema spolu(muško, žensko),dobnoj skupini (od 15 do 24 godina, od 25 do 54 godina, od 55 do 64 godina), geografskoj pokrivenosti (urbana sredina, ruralna sredina) i stupnju obrazovanja (osnovno obrazovanje, srednje obrazovanje, visoko obrazovanje).*

**Ključne riječi:** radna snaga, zaposlenost, nezaposlenost, spol, dobna skupina, obrazovanje

## **1. Introduction**

Position in the labor market is one of the factors that determine the quality of life of the individual. The aim of each country is to have a diverse labor force, primarily to have more employed. For the purpose of the work, it will conduct a detailed analysis of the labor force and unemployment and employment in selected countries in the period from 2001 to 2013. The analyzed countries are the Republic of Croatia, the Republic of Austria, the Republic of Bulgaria and the Czech Republic. The aim of research is to show whether there are significant differences and what kind in the structure of labour force in the selected countries.

## **2. Analysis of labour market**

The labor market can be observed from different views. But what is actually the labor market? „A labour market is the place where workers and employees interact with each other. In the labour market, employers compete to hire the best, and the workers compete for the best satisfying job.“ (The Economic Times) For the purpose of the work will be analyzed labor force, employment and unemployment, as well as the status of women and men in the labor market.

The labor force present individuals who are able to work. It is made up of total number of unemployed and employed in one labor market. “Persons in employment are persons who did any work for payment in cash during the reference week. Those are employees, self-employed persons and family members who are helping in a business entity owned by a family member, persons who worked on contract for direct payment in cash or kind.” (Knežević, Kulaš, 2015, 1073) Unemployed persons are all fully or partly capable person to work at the age of 15-65 years, who is not employed and who are regularly registered the Employment Service.

Below is an analysis of the labour force, unemployment and employment in the selected states. The criteria are gender (male, female), age group (15-24 years, 25-54 years, 55-64 years), geographical coverage (urban, rural) and level of education (primary education, secondary education, higher education).

### **2.1. Analysis of labour force**

Analysis of labour force showed that there were differences in the structure of labour force in the selected countries. It follows an analysis of each country.

Analysis of labour force showed that in the period from 2001 to 2013, in Austria the share of male labour force decreased, so that in 2001 its share was 56%, while in 2013 it fell to 53% of the total labour force. The analysis of labour force by geographical coverage showed that more labour force were in urban areas, in the range from 58 to 61%. It is interesting to point out the fact that in 2012 and 2013 the share of the labour force in urban areas reduced. During the observed period there were more female labour force with primary education, and more male labour force with secondary and higher education.

In the period from 2001 to 2013, in Bulgaria the share of male labour force was 53% (except in 2005 when it was 54%). The analysis showed that in the period from 2006 to 2013 the share of the

urban labour force increased significantly. In 2006 the share of urban labour force was only 41% while in 2013 it was even 73%. From this it can be concluded that a large part of the citizens of Bulgaria migrated to urban areas. The level of education of the labour force in Bulgaria was different than in Austria. There were more female labour force with higher education, and more male labour force with primary and secondary education.

The analysis of labour force for Croatia for the period from 2002 to 2012 showed that, as well as the previously analysed countries, the share of male labour force was higher and it was about 55%. Concerning the structure of labour force by geographical coverage, in Croatia during almost the entire period, the share of the urban labour force was nearly 100%. But in 2012 there was a substantial reversal, and its share was only 58%. In terms of the labour force with primary education, in the period from 2002 to 2005, there were more men, and after that there were more women. In the observed period there were constantly more men with secondary education, and more women with higher education.

The share of the male labour force in the Czech Republic during the observed period from 2001 to 2013 ranged from 55 to 57%. The analysis of the labour force by geographical coverage, showed that the share of labour force from urban areas varied, so that in 2002 it was 72%, while in 2013 it was 64%. The lowest share was in 2006 and 2007 when it was 59%. When analysed level of education, it could be seen as well as Austria, that most of the female labour force had primary education, while men led to secondary and higher education.

Below is an analysis of the labour force by age.

**Table 1** Labour force by age (in 000)

Country	Age	2002	2005	2009	2012
Austria	15-24	508	582	600	593
	25-54	3044	3100	3214	3260
	55-64	271	312	392	445
Bulgaria	15-24	350	292	286	248
	25-54	2708	2621	2673	2521
	55-64	319	368	482	535
Croatia	15-24	224	205	178	154
	25-54	1399	1342	1281	1222
	55-64	118	191	250	291
Czech Republic	15-24	550	462	424	374
	25-54	3982	4020	4051	4027
	55-64	501	637	734	774

Source: made by author according to data of the International Labour Organization

The average age of the labour force in Austria ranged from 38.27 years in 2007 to 38.76 years in 2013.

The average age of the labour force in Bulgaria ranged from 39.07 years in 2001 to 41.34 years in 2013. According to that, the Bulgarian workforce is aging.

The average age of the Croatian labour force ranged from 37.7 years in 2002 to 40.41 years in 2012. This showed that the Croatian labour force is rapidly aging and it presents a serious demographic problem.

The average age of the Czech labour force ranged from 38.9 years in 2001 to 40.97 years in 2013. Accordingly, the Czech workforce is aging year by year.

## 2.2. Analysis of unemployment

Analysis of unemployment showed that there were differences in the structure of unemployment in the selected countries. It follows an analysis of each country.

The analysis of unemployment by sex in Austria in the period from 2001 to 2013 showed that the share of unemployed men ranged from 48% (in 2007) to 59% (in 2003). Therefore Austrian unemployment by sex varied significantly. With regard to unemployment by geographical coverage, it was noticed that the share of the unemployed in urban areas increased from year to year, so that in 2001 it was 68%, while in 2013 it was even 75%. This shows that a large share of the unemployed migrated to urban areas. Analysis showed that there were more unemployed men with secondary education, while the share of the unemployed with primary and higher education by sex varied (although in most observed years there were more unemployed men).

The share of unemployed men in Bulgaria during the period varied. Thus, in 2007 the share was 50% of the unemployed, while in 2013 it was even 59%. Unemployment by geographical coverage was analysed only for the period from 2006 to 2013. Share of unemployed in urban areas in 2006 was only 31% but in 2013 it doubled and it was 64%. This fact is not surprising, because in the same period the share of the total labour force in urban areas significantly increased. Analysis of unemployment according to level of education showed that there were more unemployed men with primary and secondary education, while more unemployed women with higher education.

In Croatia, the share of unemployed men in 2008 was the lowest, and it was 46% of the unemployed, while in 2012 it was the highest and made up 56% of the unemployed. Accordingly, during the period, the share of unemployed men varied significantly. In the analysis of the unemployment by geographical coverage, it observed that in the period from 2002 to 2011 the share of unemployed in urban areas was almost 100%, while in 2012 revolutionized and it was only 57%. This fact is not surprising, because in the same period the share of the labour force significantly migrated to rural areas. Unemployment of men and women with primary and secondary education varied during the period (significantly increased the number of men with secondary education), while there were more unemployed women with higher education.

The analysis of unemployment in the Czech Republic showed that the share of unemployed men was the lowest compared to the previous three selected countries. The share of unemployed men ranged from 43 to 50%. Unemployment by geographical coverage varied, so that the share of unemployed men in 2003 was 77%, in 2009 and 2010 it was only 57%. After 2010 the share of unemployed men recorded an upward trend (in 2012 and 2013 it was 61%). According to level of education, there were more unemployed women with primary and secondary education, and more men with higher education.

Below is an analysis of unemployed by age.

**Table 2** Analysis of unemployed by age (in 000)

Country	Age	2002	2005	2009	2012
Austria	15-24	36	60	60	52
	25-54	135	136	135	123
	55-64	16	11	9	14
Bulgaria	15-24	125	65	46	70
	25-54	445	237	160	284
	55-64	48	32	30	56
Croatia	15-24	79	66	45	66



Country	Age	2002	2005	2009	2012
	25-54	179	146	101	174
	55-64	9	14	14	31
Czech Republic	15-24	85	89	71	73
	25-54	251	287	240	247
	55-64	20	33	42	45

*Source: made by author according to data of the International Labour Organization*

The average age of the unemployed in Austria ranged from 34.99 years in 2009 to 37.94 years in 2001. In fact, after 2009 the average age of the unemployed grew, and in 2013 it was 36.86 years.

The average age of the unemployed in Bulgaria ranged from 37 years in 2001 to 40 years in 2013.

The analysis of unemployment by age in Croatia showed that the average age of the unemployed ranged from 34 years in 2003 and up to 37 years in 2011 and 2012.

In Czech Republic the average age of the unemployed in 2001 was 35.89 years and in 2013 it was 39.06 years. In fact, throughout the observed period there was an increase of the average age of the unemployed.

### **2.3. Analysis of employment**

Analysis of employment showed that there were differences in the structure of employment in the selected countries. It follows an analysis of each country.

Analysis of total employment in Austria showed that the share of employed men ranged from 56% in 2001 to 53% in 2013. Employment by geographical coverage showed that the share of employment in urban areas wasn't significantly changed and fluctuated between 57 and 61%. Most of the observed period it was 60%. According to level of education, there were more employed women with primary education, and more employed men with secondary and higher education.

Share of employed men in Bulgaria in the period from 2001 to 2013 increased by 1%. In 2001 and 2002 it was 52%. In the rest of the observed period it was 53%. As already mentioned several times, the analysis of employment by geographical coverage was only possible from 2006. Accordingly, the share of employed in urban areas in 2006 was just 42% of employees, and in 2013 increased to 74%. According to level of education, there were more employed women with higher education, while more employed men with primary and secondary education.

In Croatia, the share of employed men during the period was higher than 50%, more precisely it ranged between 54 and 56%. Share of the employed in urban areas over the entire period was 100%, except in 2013 when it was only 58%. If it observed level of education of employed, then in the observed period there were more employed men with secondary education while more employed women with higher education. In primary education there were some changes, so that from 2002 to 2004 there were more employed men with primary education, while from 2005 there were more employed women with primary education.

The analysis of total employment in Czech Republic showed that the share of employed men over the observed period was between 56 and 57%. Share of employed in urban areas varied during the period and ranged between 59 and 72%. The highest was just in the first part of the observed period. Among the employees with primary education led women, while men led with secondary and higher education.

Below is an analysis of employed by age.

**Table 3 Analysis of employed by age (in 000)**

Country	Age	2002	2005	2009	2012
Austria	15-24	471	522	540	541
	25-54	2909	2964	3079	3137
	55-64	255	301	383	431
Bulgaria	15-24	226	227	240	178
	25-54	2264	2384	2513	2237
	55-64	271	336	452	479
Croatia	15-24	145	139	133	88
	25-54	1220	1196	1180	1048
	55-64	109	177	236	260
Czech Republic	15-24	465	373	354	301
	25-54	3731	3733	3812	3780
	55-64	482	604	692	729

*Source: made by author according to data of the International Labour Organization*

The average age of employed in Austria was around 38-39 years.

The average age of employed in Bulgaria was between 39.57 years in 2001 and 41.63 years in 2013. Accordingly, the average age showed steady growth.

The average age of employed in Croatia was between 38.14 years and 40.99 years. Accordingly, the Croatian employees is aging.

The average age of employed in the Czech Republic was high as well as the previously analysed countries, and ranged between 39.15 years in 2001 to 41.13 years in 2013.

### **3. Conclusion**

In Austrian, Bulgarian, Croatian and the Czech labour force, across all age groups (15-24, 25-54, 55-64) there were more men than women. By geographical coverage there were also more male labour force. In Austria and the Czech Republic more female labour force had primary education, but more male labour force had secondary and higher education. In Bulgaria there were more female labour force with tertiary education, while more male labour force with primary and secondary education. In Croatia, the situation was different. When it came to the labour force with primary education, then in the period from 2002 to 2005 there were more men. After that led women. In the observed period constantly there were more men with secondary education, while women led with higher education.

In Austria, the share of unemployed men in the total population was higher than women if the criteria is age group. The biggest difference was between the ages of 55-64 years. According to geographical coverage, there were more unemployed men than women in the total population. According to the education, there were more unemployed men in primary and secondary education and more women unemployed in higher education.

In Bulgaria there were also more unemployed men than women. According to the geographical coverage, there was higher unemployment rate of men. According to level of education there were more unemployed men with primary and secondary education and more unemployed women with higher education. However, in 2011, 2012 and 2013, the number of unemployed women decreased, while the number of men increased.

In Croatia in the age of 15-24 and 55-64 years there were more unemployed men. According to geographical coverage, in rural areas was higher unemployment of women and in urban there was higher unemployment of men. In primary education, there were more unemployed men. In secondary education, from 2002 to 2010 year higher was unemployment of women, while in 2011

and 2012 it recorded higher unemployment of men. There was higher unemployment of women with higher education.

In the Czech Republic the unemployment of men was more than women in the age group of 15-24 and 55-64. At the age of 25-54 years higher was unemployment of women. Unemployment of women and men by geographical coverage during the period varied. Unemployment according to education was as follows: there were more unemployed men with primary education, while there was higher unemployment of women with secondary and higher education.

In Austria, Bulgaria, Czech Republic and Croatia across all age groups, there were more employed men than women. Such the situation was also by geographical coverage. In Austria, Bulgaria and the Czech Republic the male employees led at all levels of education, while in Croatia, there were more employed men with primary and secondary education, while more employed women with higher education.

The research showed that there were significant differences in the structure of labour force, unemployed and employed in the selected countries.

## REFERENCES

The Economic Times, <http://economictimes.indiatimes.com/definition/labour-market> (accessed 14 March 2016)

International Labour Organization, Labour Force Survey, Austria, [www.ilo.org](http://www.ilo.org) (access from 2012 to 2013)

International Labour Organization, Labour Force Survey, Bulgaria, [www.ilo.org](http://www.ilo.org) (access from 2012 to 2013)

International Labour Organization, Labour Force Survey, Croatia, [www.ilo.org](http://www.ilo.org) (access from 2012 to 2013)

International Labour Organization, Labour Force Survey, Czech Republic, [www.ilo.org](http://www.ilo.org) (access from 2012 to 2013)

Knežević, S.; Kulaš, A. (2015): *The impact of demographic trends in Brod-Posavina county with regard to the labor market*, in: Interdisciplinary Management Research XI, Proceedings, J. J. Strossmeyer University, Faculty of Economics in Osijek; May 15–17, 2015, pp. 1066-1076

**mr.sc. Antun Marinac, Senior Lecturer**

Institution/Affiliation: Polytecnic in Požega

Postal Address: Vukovarska 17, 34 000 Požega

Phone: 00385 98 931 60 55

E-mail address: amarinac@vup.hr

**Nikolina Gazilj, mag.iur., Business Development Manager**

Institution/Affiliation: Office of Entrepreneurial Development

Postal Address: Dragutina Lermana 10, 34 000 Požega

Phone: 00385 98 974 2816

E-mail address: nikolina.gazilj1@gmail.com

**Tena Emanović, student**

Institution/Affiliation: Polytecnic in Požega

Postal Address: Vukovarska 17, 34 000 Požega

E-mail address: tena.emanovic1@gmail.com

## **CONSTITUTIONAL AND DEVELOPMENTAL POSITION OF TERRITORIALY CONCENTRATED MINORITIES IN EASTERN CROATIA**

### **USTAVNOPRAVNI I RAZVOJNI POLOŽAJ TERITORIJALNO KONCENTRIRANIH NACIONALNIH MANJINA U ISTOČNOJ HRVATSKOJ**

#### ***ABSTRACT***

*The paper discusses the constitutional and territorial development status of concentrated minorities in Eastern Croatia. Accompanied to the normative method, as part of research methodology, following methods were used: comparative method, historical and statistical method and secondary researches. Due to the changes of the Croatian Constitution in 2010, 22 national minorities were included in its Foundation Source, as well as Croatian citizens, who are guaranteed equality with citizens of Croatian nationality and the realization of national rights in accordance with the democratic norms of the United Nations and countries of the free world. In eastern Croatia there are towns and municipalities with increased concentration of ethnic minorities (Serbs, Slovaks, Hungarians and the Czech). However, the development index shows that all minority local units range within from below 50% to barely 75% of the average development of the Republic of Croatia. In contrast to the good development of the area with territorially concentrated minorities in some European countries (Spain, Italy, the United Kingdom, Austria ...), territorially concentrated minorities in Eastern Croatia show extremely below-average development status. Some documents promote economic and social development of members of ethnic minorities. At the global level, the UN Declaration on the Rights of Persons belonging to national or ethnic, religious and linguistic minorities obliges countries to consider appropriate measures so that members of minorities could fully participate in the economic progress and development in their country. In the European context, the European Framework Convention for the Protection of National Minorities also provides special rights to national minorities inhabited in the areas which traditionally or in substantial number belong to national minorities. In the Croatian perspective, the Constitutional Law on National Minorities specifies how ethnic and multicultural diversity and spirit of understanding, respect and tolerance contribute to promotion of the development of the Republic of*

*Croatia. Based on the constitutional position and achieved development position of territorially concentrated minorities in Eastern Croatia, it is proposed that the Republic of Croatia takes certain measures in order to improve the level of development of areas where national minorities traditionally live.*

**Key words:** *Eastern Croatia, minority rights, development, territorially concentrated ethnic minorities, the Constitution.*

## **SAŽETAK**

*U radu se razmatra ustavnopravni i razvojni položaj teritorijalno koncentriranih manjina u Istočnoj Hrvatskoj. Osim normativističke metode, u sklopu metodologije istraživanja korištene su: komparativna metoda, povijesna i statistička metoda te sekundarna istraživanja. Promjenama Ustava Republike Hrvatske iz 2010. godine, u njegove Izvorišne osnove uvrštene su 22 nacionalne manjine, kao hrvatski državljani, kojima se jamči ravnopravnost s građanima hrvatske narodnosti i ostvarivanje nacionalnih prava u skladu s demokratskim normama OUN-a i zemalja slobodnoga svijeta. U Istočnoj Hrvatskoj postoje gradovi i općine s povećanom koncentracijom nacionalnih manjina (Srba, Slovaka, Mađara i Čeha). No, po prosjeku razvijenosti, sve manjinske lokalne jedinice kreću se u rasponu od ispod 50% do jedva 75% prosječne razvijenosti Republike Hrvatske. Za razliku od dobre razvijenosti područja s teritorijalno koncentriranih manjinama, u nekim europskim zemljama (Španjolskoj, Italiji, Velikoj Britaniji, Austriji...), teritorijalno koncentrirane manjine u Istočnoj Hrvatskoj imaju izrazit ispodprosječan razvojni položaj. Pojedini dokumenti promiču gospodarski i društveni razvoj pripadnika nacionalnih manjina. Na svjetskoj razini, UN-ova Deklaracija o pravima osoba koje pripadaju nacionalnim ili etničkim, vjerskim i jezičnim manjinama, obvezuje države da razmotre odgovarajuće mjere kako bi pripadnici manjina mogli u potpunosti sudjelovati u gospodarskom napretku i razvoju u njihovoj zemlji. U europskom kontekstu, Europska okvirna konvencija o zaštiti nacionalnih manjina propisuje posebna prava nacionalnim manjinama nastanjenim na područjima koje tradicionalno ili u znatnijem broju pripadaju nacionalnim manjinama. U hrvatskoj perspektivi, Ustavni zakon o pravima nacionalnih manjina određuje kako etnička i multikulturalna raznolikost i duh razumijevanja, uvažavanja i tolerancije doprinose promicanju razvoja Republike Hrvatske. Na temelju ustavnopravnog položaja i dostignutog razvojnog položaja teritorijalno koncentriranih manjina u Istočnoj Hrvatskoj, predlaže se da Republika Hrvatska poduzme određene mjere u cilju poboljšanja stupnja razvijenosti područja u kojima nacionalne manjine tradicionalno žive.*

**Ključne riječi:** *Istočna Hrvatska, manjinska prava, razvoj, teritorijalno koncentrirane nacionalne manjine, Ustav.*

## **1. Introduction**

This paper will analyse the constitutional and developmental position of territorially concentrated minorities in Eastern Croatia. Firstly, minorities in general will be discussed (definition, classification). This will be followed by an overview of the position of minorities at the global level, in the European context, and in the Republic of Croatia. It will be shown how the protection of minority rights is provided by: international law, European law, national legislation (constitutions and laws), courts (international, European, constitutional) or special institutions (ombudsman etc.). The basis of minority protection can no longer be based solely on the prohibition of discrimination, but it should also guarantee them their right to the preservation of their identity (ethnic, religious and cultural). Also, different developmental positions of territorially concentrated minorities will be pointed out.

## 2. National minorities in general

Among several definitions of national minorities, the example used here will be the definition from Article 1 of the Recommendation 1201 of the Parliamentary Assembly of the Council of Europe. According to it, national minorities are groups of people in a state who: “a) reside on the territory of that state and are citizens thereof; b) maintain longstanding, firm and lasting ties with that state; c) display distinctive ethnic, cultural, religious or linguistic characteristics; d) are sufficiently representative, although smaller in number than the rest of the population of that state or of a region of that state; e) are motivated by a concern to preserve together that which constitutes their common identity, including their culture, their traditions, their religion or their language.” It illustrates how national minorities are related to the territory of a particular state. The fact is that their concentration or dispersion in a particular territory, as well as social circumstances and political specificities of a state, have a great influence on the position and on the rights of minorities.

The minorities’ position depends on whether they are recognised or unrecognised, whether they are territorially concentrated or dispersed, whether their home country is in their surroundings, whether they are loyal to the state or have separatist aspirations, whether only their individual and/or group rights are respected, whether they have cultural autonomy, whether they have their own organisations, associations or institutions and whether they are explicitly mentioned in the states’ constitutions and how a constitution defines their rights. All these differences lead to a need for a dual approach to the issue of minorities in each country: a unique one for all minorities which stems from constitutional and international commitments (non-discrimination on any basis, respect for human rights and freedoms, including the rights of ethnic, national and religious minorities) and a specific one which takes into account specificities of each minority (Stanković-Pejnović V., 2010, pp. 481–482). Minority rights are one of today’s most important issues in both legal and political theories, as well as in modern world practice (Bačić, A., 2010, p. 181). These rights are part of the human rights complex so their protection is also a part of human rights protection. The essence of the protection of national minorities comprises: non-discrimination, equality of all national minorities (national equality) and additional measures to ensure the preservation of their national, religious, cultural and linguistic identities.

With regard to the territorial distribution in a particular state, minorities can be:

- 1) territorially concentrated minorities within a particular territorial unit and
- 2) migration minorities dispersed throughout the territory of a particular state.

Territorially concentrated, i.e. autochthonous minorities, are different from migration minorities in their historical connection to the territory in which they are the “original” inhabitants. These minorities are mostly formally and legally recognised in Western Europe. In contrast, migration minorities do not have a historical or an “autochthonous” background, or a connection to a certain territory in which they have lived for generations. They are characterised by dispersion throughout state territory.

The territoriality principle is a form of autochthony (criterion of autochthonous settlement) for the implementation of positive measures to protect minority rights, according to which the rights guaranteed to minorities are executed only in a particular territory (for example: Slovenia, Austria, Federal Republic of Germany, Denmark...). The provision of protection outside the territory of minorities’ seats is limited only to the prohibition of discrimination against them.

Ana Horvat claims that in contrast to the modern minority status, 370 million native people exercise their specific rights (and legitimize them) on the basis of their territorial concentration on the land to which they have collective rights (Horvat, A., 2010, pp. 562–563).

Traditional territorially concentrated minorities rely on the regime of minority rights, while migration minority protection is derived from international rules of protection of migrant workers, their families and migrant communities (Letschert, Rianne, 2007, pp. 46–47).

In terms of exercising minority rights, minorities located in territorially concentrated minority communities can more easily exercise their rights and preserve their identity in relation to minorities which are dispersed throughout state territory.

Groups that inhabit a compact territory have the best management possibilities. In this case they can achieve almost complete autonomy in another nation's territory. There is a state organisation requirement that the territory in which a minority lives be designated as a special unit of local self-government and that the powers of those local self-government units be expanded in relation to the central government (Stanković Pejnović, 2010, pp. 91–92, 94).

### **3. The position of national minorities at the global level**

By adopting the International Covenant on Civil and Political Rights in 1996, the United Nations General Assembly for the first time explicitly spoke in favour of protection of minorities, stipulating in its Article 27: "In those states in which ethnic, religious or linguistic minorities exist, persons belonging to such minorities shall not be denied the right, in community with the other members of their group, to enjoy their own culture, to profess and practise their own religion, or to use their own language."

United Nations Declaration on the Rights of Persons Belonging to National or Ethnic, Religious and Linguistic Minorities of 1992 is the most important universal international document in the field of minority protection. The essence of the corpus of minority rights is stipulated by Article 2 of the Declaration, according to which the following rights are recognised to members of minorities: the right to enjoy their own culture, to profess and practise their own religion, and to use their own language, in private and in public, freely and without interference or any form of discrimination; the right to participate effectively in cultural, religious, social, economic and public life; the right to participate effectively in decisions on the national and, where appropriate, regional level concerning the minority to which they belong or the regions in which they live, in a manner not incompatible with national legislation; the right to establish and maintain their own associations; the right to establish and maintain, without any discrimination, free and peaceful contacts with other members of their group and with persons belonging to other minorities, as well as contacts across frontiers with citizens of other states to whom they are related by national or ethnic, religious or linguistic ties.

It is important to point out that Article 4, section 5 of the Declaration stipulates the responsibility of the states, specifying: "States should consider appropriate measures so that persons belonging to minorities may participate fully in the economic progress and development in their country."

The Vienna Declaration (1993) in its Article 20 states: "The World Conference on Human Rights recognizes the inherent dignity and the unique contribution of indigenous people to the development and plurality of society and strongly reaffirms the commitment of the international community to their economic, social and cultural well-being and their enjoyment of the fruits of sustainable development."

The United Nations Declaration on the Rights of Indigenous People of 2007, although not binding, recognises the right of autochthonous peoples to: autonomy or self-government (Art. 3), not allowing an interpretation which would enable dismembering the territorial integrity (Art. 46), the right to the territory and collective possession of land to which they are closely related (Art. 26), limiting the possibility to use army in these areas (Art. 30) and the right to conclude contracts and agreements with the state in which they are located (Art. 37). This can lead to a conclusion that

autochthonous peoples' territories constitute autonomous areas with a high level of self-government and a limitation of state sovereignty.

#### **4. The position of national minorities in the European context**

The protection of European states' minorities is primarily achieved through activities of the Council of Europe. The basic documents which regulate the protection of minorities under the Council of Europe are the Framework Convention for the Protection of National Minorities and the European Charter for Regional or Minority Languages. The most important document for the protection of minority rights at the European level is the European Framework Convention for the Protection of National Minorities. It is an international legal document, binding on all member states of the Council of Europe which have ratified the Convention. The Convention guarantees the following rights to members of national minorities: the right to freely choose to be treated or not to be treated as a member of a minority (Article 3), the right of equality before the law and of equal protection of the law (Article 4, section 1), the right to freedom of peaceful assembly, freedom of association, freedom of expression, and freedom of thought, conscience and religion (Article 7), the right to manifest his or her religion or belief and to establish religious institutions, organisations and associations (Article 8), the right to freedom of expression of every person belonging to a national minority including freedom to hold opinions and to receive and impart information and ideas in the minority language, without interference by public authorities and regardless of frontiers (Article 9), the right of every person belonging to a national minority to use freely and without interference his or her minority language, in private and in public, orally and in writing (Article 10, section 1), the right to be informed promptly, in a language which he or she understands, of the reasons for his or her arrest, and of the nature and cause of any accusation against him or her, and to defend himself or herself in this language, if necessary with the free assistance of an interpreter (Article 10, section 3), the right to use his or her surname and first names in the minority language and the right to official recognition of them, according to modalities provided for in their legal system (Article 11, section 1), the right to display in his or her minority language signs, inscriptions and other information of a private nature visible to the public (Article 11, section 2), the right to set up and to manage their own private educational and training establishments (Article 13), the right to learn his or her minority language (Article 14, section 1), the right to establish and maintain free and peaceful contacts across frontiers with persons lawfully staying in other states, in particular those with whom they share an ethnic, cultural, linguistic or religious identity, or a common cultural heritage (Article 17, section 1), the right to participate in the activities of non-governmental organisations, both at the national and international levels (Article 17, section 2). In articles 10 (section 2), 11 (section 3), 14 (section 2) and 16, what is mentioned are areas inhabited by persons belonging to national minorities traditionally or in substantial numbers. In these areas national minorities can exercise certain rights (the right to use the minority language in relations with administrative authorities, the right to display traditional local names, street names and other topographical indications in the minority language, the right to learn the minority language or to receive instruction in this language, and that member states shall refrain from measures which alter the proportions of the population in areas inhabited by persons belonging to national minorities and are aimed at restricting their rights). Since language is a decisive element in the distinction of national minorities, under the auspices of the Council of Europe in order to protect and promote traditional regional and minority languages in Europe, the European Charter for Regional or Minority Languages was adopted in 1992. The Charter, in its Article 1, defines regional or minority languages as languages "traditionally used within a given territory of a state by nationals of that state who form a group numerically smaller than the rest of the state's population and different from the official language(s) of that state."

The Lisbon Treaty recognises the protection of minorities as one of the fundamental values of the European Union and has an objective to respect linguistic diversity. Pursuant to Article 2 of the



Treaty on European Union, the Union includes the protection of “the rights of persons belonging to minorities.”

The Charter of Fundamental Rights of the European Union respects linguistic diversity (Article 22) and prohibits discrimination on the grounds of language (Article 21).

In Spain, Italy and the Great Britain, minority regions have a special status which means a higher level of autonomy. In Austria, there are also national minorities of which the most numerous are the Croatian, Slovenian and Hungarian national minorities which are concentrated, mostly in the border areas.

**Table 1** *The development of territorially concentrated minorities in the European Union*

No.	Region/State	GDP per capita	
		In euro	% of EU-28 average
	European Union	25,100	100.0%
	Spain	24,200	96%
1	Basque Country (concentration of Basques)	32,500	130%
2	Catalonia (concentration of Catalans)	28,400	113%
3	Galicia (concentration of Galicians)	21,800	87%
	Italy	25,500	102%
4	South Tyrol (concentration of Austrians)	36,900	147%
5	Valle d’Aosta (concentration of the French)	33,000	132%
	France	27,400	109%
6	Corsica (concentration of Corsicans)	22,800	91%
7	Alsace (concentration of Germans)	25,400	101%
8	Aquitaine (concentration of Occitans)	23,900	95%
9	Brittany / <i>Bretagne</i> (concentration of Bretons)	22,400	89%
	United Kingdom	26,400	105%
11	Scotland (concentration of Scots)	24,500	98%
12	Wales (concentration of the Welsh)	18,600	74%
13	Northern Ireland (concentration of the Irish)	19,700	78%
	Finland	29,000	116%
14	Åland (concentration of Swedes)	34,600	138%
	Netherlands	32,500	129%
15	Friesland (concentration of Frisians)	26,300	105%
	Denmark	31,500	126%
16	Syddanmark (concentration of Germans)	27,800	111%
	Austria	32,300	129%
17	Burgenland (concentration of Croats)	21,700	87%

Source: *Economy of the European Union* (19 April 2015), available at: [http://en.wikipedia.org/wiki/Economy\\_of\\_the\\_European\\_Union](http://en.wikipedia.org/wiki/Economy_of_the_European_Union), accessed on: 20 April 2015

The above table shows that, in terms of development, minority regions are in relatively good standing in relation to the state to which they belong, or to the European Union. This is a result of high autonomy within the respective countries. If regional differences coincide with intraterritorial borders, and the federal or unitary state does not recognise them, or does not want to deal with them, this can lead to conflicts.

## 5. The position of national minorities in the Republic of Croatia

Along with the Croatian majority, national minorities have traditionally lived in the territory of the Republic of Croatia. According to the 2011 census, there are 4,284,889 inhabitants in Croatia, of which national minorities constitute 328,738 persons as follows: Serbs 186,633 (4.36%), Bosniaks 31,479 (0.73%), Roma 16,975 (0.40%), Albanians 17,513 (0.41%), Italians 17,807 (0.42%), Hungarians 14,048 (0.33%), Slovenians 10,517 (0.25%), Czechs 9,641 (0.22%), Slovaks 4,753 (0.11%), Montenegrins 4,517 (0.11%), Macedonians 4,138 (0.10%), Germans 2,965 (0.07%), Rusyns 1,936 (0.05%), Russians 1,279 (0.03%), Ukrainians 1,878 (0.04%), Poles 672 (0.02%), Romanians 435 (0.01%), Turks 367 (0.01%), Jews 509 (0.01%), Bulgarians 350 (0.01%), Austrians 297 (0.01%) and Vlachs 29 (0.00)

Croats constitute approximately 90% of the population and the most numerous national minority are Serbs who constitute 186,633 persons (over 4% of the population), while all other national minorities constitute less than 1% of the population.

Historical Foundations of the Constitution of the Republic of Croatia were revised in 2010, when 22 national minorities were added to the text. In the Historical Foundations, the Republic of Croatia is established as a nation state of the Croatian nation and the state of members of its national minorities: Serbs, Czechs, Slovaks, Italians, Hungarians, Jews, Germans, Austrians, Ukrainians, Rusyns, Bosniaks, Slovenians, Montenegrins, Macedonians, Russians, Bulgarians, Poles, Roma, Romanians, Turks, Vlachs, Albanians and others who are its citizens and who are guaranteed equality with citizens of Croatian nationality and the exercise of their national rights in compliance with the democratic norms of the United Nations and the countries of the free world. The Croatian Constitution specifically defines: national equality as the highest value of the constitutional order (Article 3), the right to equal official use of the language and script of a national minority in individual local units of state territory, under conditions specified by law (Article 12, section 2), rights and freedoms to all, regardless of national origin (Article 14), a special right of the members of national minorities to elect their representatives to the Croatian Parliament, as well as guaranteed freedom of the members of all national minorities to express their nationality, to use their language and script, and to exercise cultural autonomy (Article 15), the prohibition of any call for national, racial or religious hatred (Article 39) and the guaranteed right to freedom of association for the purposes of promotion of national and other convictions and aims (Article 43).

The applicable Constitutional Act on the Rights of National Minorities entered into force in late 2002 and it defines the rights pertaining to members of traditional national minorities. In the Republic of Croatia, there is no distinction between “autochthonous” and “non-autochthonous” minorities. Minority rights are derived from the legal definition of minorities, but are not limited to the minorities listed in the Historical Foundations of the Constitution. The Republic of Croatia, in accordance with Article 7 of the Constitutional Act, ensures exercise of the special rights and freedoms of the members of national minorities which they enjoy individually or jointly with other members of the same national minority or, where so specified in the Constitutional Act on the Rights of National Minorities or special legislation, jointly with the members of other national minorities, in particular: 1) use of their language and script, privately and publicly, and in official use; 2) education in their language and script; 3) use of their insignia and symbols; 4) cultural autonomy through the preservation, development and expression of their own culture, preservation and protection of their cultural resources and traditions; 5) practice of their religion and establishment of their religious communities together with other members of the same religion; 6) access to the media and public information services (receiving and dissemination of information) in their language and script; 7) self-organisation and association in pursuit of their common interests; 8) representation in representative bodies at the national and local levels, and in administrative and judicial bodies; 9) participation by members of national minorities in public life and local self-

government through national minority councils and representatives; 10) protection from any activity jeopardising or potentially jeopardising their continued existence and the exercise of their rights and freedoms.

In addition to the Constitution and the Constitutional Act on the Rights of National Minorities, the legal framework for the protection of national minorities includes: the Law on Use of Languages and Scripts of National Minorities, and its related Directive for its consistent implementation; the Law on Education in the Language and Script of National Minorities and contracts with particular countries, as well as other international documents.

The 2014 Report on the implementation of the Constitutional Act on the Rights of National Minorities in the Republic of Croatia states that it was established that members of a particular national minority constitute at least one third of the local population in a total of 27 local self-government units, namely: members of the Serbian national minority in 23 units and members of the Czech, Hungarian, Slovakian and Italian minorities in one unit each. Consequently, pursuant to the provision of Article 12, section 1 of the Constitutional Act on the Rights of National Minorities, members of the Serbian national minority are guaranteed the right to equality in the official use of their language and script, among others, in the city of Vukovar and the following municipalities: Borovo, Erdut, Jagodnjak, Markušica, Negoslavci, Šodolovci, Trpinja; members of the Czech national minority are guaranteed this right in the municipality of Končanica; members of the Hungarian national minority in the municipality of Kneževi Vinogradi; members of the Slovak national minority in the municipality of Punitovci.

**Table 2** *The concentration of national minorities in local self-government units and their levels of development*

	County, city, municipality	Development
	a) Vukovar-Srijem County	
1	City of Vukovar (concentration of Serbian population)	50% to 75% of Croatian average
2	Borovo Municipality (concentration of Serbian population)	50% to 75% of Croatian average
3	Markušica Municipality (concentration of Serbian population)	below 50% of Croatian average
4	Trpinja Municipality (concentration of Serbian population)	50% to 75% of Croatian average
5	Negoslavci Municipality (concentration of Serbian population)	50% to 75% of Croatian average
	b) Osijek-Baranja County	
6	Erdut Municipality (concentration of Serbian population)	50% to 75% of Croatian average
7	Jagodnjak Municipality (concentration of Serbian population)	below 50% of Croatian average
8	Šodolovci Municipality (concentration of Serbian population)	below 50% of Croatian average
9	Kneževi Vinogradi Municipality (concentration of Hungarian population)	50% to 75% of Croatian average
10	Punitovci Municipality (concentration of Slovak population)	50% to 75% of Croatian average
	c) Bjelovar-Bilogora County	
11	Končanica Municipality (concentration of Czech population)	50% to 75% of Croatian average

*Source: Decision on the Classification of Units of Local and Regional Self-government According to the Level of Development, Official Gazette "Narodne novine", issue 158/13.*

The table shows that, according to the level of development, all minorities' local units in Eastern Croatia are in the range from below 50% up to 75% of average development of the Republic of Croatia.

The 2005 Report on the implementation of the Constitutional Act on the Rights of National Minorities in the Republic of Croatia points out: "Members of the Italian minority mostly live concentrated in the area of Istria County, members of the Czech minority live in the area of Bjelovar-Bilogora County, while members of the Hungarian, Slovak, Rusyn and Ukrainian minorities are located in the areas of Osijek-Baranja County and Vukovar-Srijem County. The Report also specifies that the Serbian minority mostly lives dispersed throughout Croatian territory,

while a smaller part of the minority is concentrated in parts of several counties (Šibenik-Knin, Zadar, Lika-Senj, Karlovac, Sisak-Moslavina, Vukovar-Srijem and Osijek-Baranja).”

Ethnic minorities exercise most of their guaranteed rights at the local level. This particularly applies to the following rights: the right to primary and secondary education, the right to receive and disseminate information in their mother tongue, the official use of their language and script, the establishment of local cultural institutions, displaying topographical names and personal names in the minority language and participating in local political life.

For local self-government, regulating minority rights is important. In this manner, all members of nations and minorities have equal rights in Croatia. They are guaranteed the freedom of expression of their nationality, the freedom of using their language and script, and cultural autonomy. In other words, they do not have the right to political self-determination under this kind of autonomy (Lauc, Z., 1988, p. 15).

## **6. Conclusion**

Important documents at the global, at the European and at the national level provide protection to national minorities. Among them are two documents from the field of minority protection which promote minorities as a factor of development. The first document at the global level is the United Nations Declaration on the Rights of Persons Belonging to National or Ethnic, Religious and Linguistic Minorities which requires states to “consider appropriate measures so that persons belonging to minorities may participate fully in the economic progress and development in their country.” At the level of the Republic of Croatia, the Constitutional Act on the Rights of National Minorities states that ethnic diversity contributes to the promotion of development of the Republic of Croatia.

Territorially concentrated minorities in particular European countries (Spain, Italy, Great Britain...) have a good developmental position. Moreover, in some European countries (Spain, Italy, Great Britain...) there are minority regions with a special status.

On the other hand, the developmental position of territorially concentrated minorities in Eastern Croatia is below average even in relation to Croatian circumstances.

Based on the constitutional and legal position and the achieved developmental position of territorially concentrated minorities in Eastern Croatia, it is proposed that the Republic of Croatia take certain measures in order to improve the level of development of areas where national minorities traditionally live. This particularly applies to regional development policy. This would lead to a more balanced development of state territory and to increased employment opportunities.

## **REFERENCES**

Bačić, A.: Ustavno pravo Republike Hrvatske, Praktikum, Pravni fakultet Sveučilišta u Splitu, 2010., str. 181.

Bečka deklaracija i Program djelovanja, usvojeni na Svjetskoj konferenciji o ljudskim pravima, Beč, 14. - 25. lipnja, 1993., čl. 17., potvrđeni na 48. zasjedanju Opće skupštine Ujedinjenih naroda, 1993. godine (rezolucija 48/121)

Charter of fundamental rights of the European Union, Official Journal of the European Union 2010/C 83, 30.3.2010.

Consolidated versions of the Treaty on European Union and the Treaty on the Functioning of the European Union, Official Journal of the European Union 2010/C 83, 30.3.2010.

Declaration on the Rights of Persons Belonging to National or Ethnic, Religious and Linguistic Minorities, usvojena i proglašena na 47. zasjedanju Opće skupštine Ujedinjenih naroda, 18. prosinca 1992. godine (rezolucija br. 47/135)

European Charter for Regional or Minority Languages, Council of Europe, Strasbourg, 5.XI.1992

Horvat, A.: Autohtone nacionalne manjine i ustavne promjene 2009.-2010., Zbornik PFZ, 60, (2) 555-585 (2010).

International Covenant on Civil and Political Rights (Međunarodni pakt o građanskim i političkim pravima), Adopted and opened for signature, ratification and accession by General Assembly resolution 2200A (XXI) of 16 December 1966, entry into force 23 March 1976, in accordance with Article 49

Izvješće o provedbi Ustavnog zakona o pravima nacionalnih manjina u Republici Hrvatskoj i o utrošku sredstava koja se za potrebe nacionalnih manjina osiguravaju u Državnom proračunu za 2005. godinu, Vlada Republike Hrvatske

Izvješće o provođenju Ustavnog zakona o pravima nacionalnih manjina i o utrošku sredstava osiguranih u Državnom proračunu Republike Hrvatske za 2014. godinu za potrebe nacionalnih manjina, Zagreb 23.07.2015.

Lauc, Z.: Oblikovanje hrvatske lokalne samouprave u svjetlu ratifikacije Europske povelje o lokalnoj samoupravi, u: Europska povelja o lokalnoj samoupravi i lokalna samouprava u Republici Hrvatskoj, zbornik radova, Osječko-baranjska županija, Osijek, 1988.

Letschert, Rianne. 2007. Successful integration while respecting diversity: 'old' minorities versus 'new' minorities. *Helsinki Monitor*, (18) 1: 46-56.,

Treaty of Lisbon amending the Treaty on European Union and the Treaty establishing the European Community, signed at Lisbon, 13 December 2007, Official Journal C 306 of 17 December 2007.

Naputak za dosljednu provedbu Zakona o uporabi jezika i pisma nacionalnih manjina u Republici Hrvatskoj, Narodne novine, broj 33/12

Okvirna konvencija za zaštitu nacionalnih manjina, usvojena u Strasbourgu, 10. studenoga 1995, stupila na snagu 1. veljače 1998. godine (Serija europskih međunarodnih ugovora br. 157)

Preporuka Parlamentarne skupštine Vijeća Europe 1201 iz 1993. - Nacrt Dodatnog protokola Europskoj konvenciji za zaštitu ljudskih prava i temeljnih sloboda "o pravima nacionalnih manjina".

Stanković Pejnović, V.: Grupna prava pripadnika nacionalnih manjina, Matica, proljeće / ljeto 2010., str. 79.-117.

Stanković-Pejnović V., Prošlost i budućnost multikulturalizma na jugoistoku Evrope, MP 3, 2010., str. 463-488.

United Nations Declaration on the Rights of Indigenous Peoples, 2007. Resolution adopted by the General Assembly without reference to a Main Committee (A/61/L.67 and Add.1)

Ustav Republike Hrvatske, Narodne novine br. 56/90, 135/97, 8/98, 113/00, 124/00, 28/01, 41/01, 55/01, 76/10, 85/10- pročišćeni tekst, 05/14

Ustavni zakon o pravima nacionalnih manjina, Narodne novine, broj 155/02, 47/10, 80/10, 93/11.

Zakon o odgoju i obrazovanju na jeziku i pismu nacionalnih manjina, Narodne novine, broj 51/00, 56/00

Zakon o uporabi jezika i pisma nacionalnih manjina u Republici Hrvatskoj, Narodne novine, broj 51/00 i 56/00

**Ivana Martinović, PhD, Assistant Professor**

Faculty of Humanities and Social Sciences

Lorenza Jägera 9

Phone: 031/ 494-657

E-mail address: imartinovic@ffos.hr

**Boris Badurina, PhD, Assistant Professor**

Faculty of Humanities and Social Sciences

Lorenza Jägera 9

Phone: 031/ 494-695

E-mail address: badurina@ffos.hr

**Mateja Zuzjak, student**

Faculty of Humanities and Social Sciences

Lorenza Jägera 9

E-mail address: mzuzjak@ffos.hr

**CONTRIBUTION OF PUBLIC LIBRARIES TO THE INCREASE OF  
DIGITAL INCLUSION IN THE OSIJEK-BARANYA COUNTY**

**DOPRINOS NARODNIH KNJIŽNICA POVEĆANJU RAZINE DIGITALNE  
INKLUZIJE U OSIJEČKO-BARANJSKOJ ŽUPANIJI**

**ABSTRACT**

*Among the basic human rights established during the 20th century was the right to education (and knowledge). Education and learning represent important constituents of personal development, leading to a more fulfilled life. Higher level of education is a necessary prerequisite for employment and economic growth. It is well-known that libraries are major centers of sources of knowledge. Public libraries should be the most important local place for acquiring knowledge. In addition, they are expected to facilitate, strengthen, and promote independent learning. Library divisions and services specialized for formal and informal learning should be equipped and organized so as to respond to the needs of a community, creating supportive conditions for lifelong learning. International research points to a prevailing use of information and communications technology in public libraries. Public library users use information and communications technology to find information needed for daily life, education, or business, and to engage in interpersonal communication and social networking. Therefore, the role of public library is considered to be important in increasing digital inclusion. Furthermore, it has been proven that digital inclusion involves personal benefits by enhancing employment prospects. This, in turn, entails increasing benefits for a community in terms of lowering costs and increasing profit.*

*The aim of the present study is to establish the ways how public libraries in the Osijek-Baranya County contribute to the increase of digital inclusion in the local community. Additionally, it aims to point to potential needs for redesigning and repositioning existing libraries' programs and services so as to increase personal benefits of an individual user and the local community as a whole. The research findings shows how libraries in the Osijek-Baranya County get involved and what they do in order to increase the standards of digital inclusion in the local community. Furthermore, the*

research points to possible strengths or obstacles in fulfilling the goals of a more successful digital inclusion. The study employs interview as a main research method.

**Keywords:** digital inclusion, public libraries, Osijek-Baranya county

## SAŽETAK

Jedno od priznatih prava pojedinca tijekom 20. stoljeća postaje pravo na obrazovanje i (znanje). Obrazovanje i učenje važan su element osobnog razvoja i bogatijeg života. Viši stupanj obrazovanja nužan je preduvjet zapošljavanja i gospodarskog rasta. Poznata je činjenica da su knjižnice glavna središta izvora znanja. Narodne knjižnice trebale bi biti najvažnije lokalno mjesto stjecanja znanja te podupirati, osnaživati i zagovarati samostalno učenje. Knjižnice svoje službe i usluge za neformalno i formalno učenje trebaju opremiti i organizirati na način da zadovolje potrebe zajednice i stvore učinkovite uvjete za cjeloživotno učenje. Istraživanja na međunarodnoj razini pokazuju visok stupanj zastupljenosti i korištenja informacijsko-komunikacijske tehnologije u narodnim knjižnicama. Informacijsko-komunikacijske tehnologije korisnici u narodnim knjižnicama koriste u svrhu pretraživanja informacije za svakodnevni život, obrazovanje, posao te međusobnu komunikaciju i društveno umrežavanje. Stoga se iznimno važnom smatra uloga narodne knjižnice u povećanju digitalne inkluzije. Nadalje, dokazano je da digitalna inkluzija implicira osobne dobrobiti pojedinca kroz povećanje zapošljivosti. Ta činjenica za sobom povlači povećanje dobrobiti za zajednicu u vidu smanjenja financijskih izdataka i povećanje financijske dobiti.

Svrha ovoga istraživanja je utvrditi načine na koje narodne knjižnice u Osječko-baranjskoj županiji doprinose povećanju digitalne inkluzije u lokalnoj zajednici, te ukazati na moguće potrebe za preoblikovanjem i repozicioniranjem njihovih postojećih programa i usluga kako bi se povećala osobna dobrobit pojedinaca i lokalne zajednice u cjelini.

Rezultati istraživanja pokazuju kako se knjižnice u Osječko-baranjskoj županiji uključuju i što sve rade u cilju podizanja razine digitalne inkluzije u lokalnoj zajednici te ukazuju na moguće prednosti ili poteškoće u ostvarivanju ciljeva uspješnije digitalne inkluzije.

U istraživanju se primjenjuje intervjuiranje kao glavna istraživačka metoda.

**Ključne riječi:** Digitalna inkluzija, narodne knjižnice, Osječko-baranjska županija

## 1. Introduction

Nowadays all aspects of life, from politics and economy to art and culture, from sports to education and science, are under direct influence of the Internet and information technologies. People need information to find a job, get health information or to better their lives wherever they live. The rise of the Internet has led to a drastical change in the ways of seeking and finding information as well as of sharing information and communicating with other people. When it comes to learning and education, this tendency is probably even more evident. As knowledge becomes a key resource in this digital age (in which old economies shift to knowledge-based economies), it is pertinent to understand how knowledge is acquired, generated, and expanded (Leadbeater, 2000). Moreover, digitally literate individuals have a higher potential for all sorts of personal gain. Better job seeking skills, which result from digital literacy, can, for example, be seen as a personal gain and may help increase the employment rate which in turn can be seen as a gain for the community. A higher employment rate leads to lower financial costs or higher financial gains for the whole society. "Several recent studies highlight (potential) cost savings to the state through promoting digital inclusion, in particular by supporting and making feasible the increasing shift of government services to online provision" (Ashley, 2014, 46). A digitally excluded person lacks a number of opportunities and a possibility to participate fully in a modern society. With underdeveloped ICT skills a person



can expect difficulties participating in business or getting full access to education, health and public services. According to American Library Association data (2013), 80% of Fortune 500 companies accept online job applications only. As many as 72% of employers do not invite applicants with underdeveloped digital skills for an job interview (CILIP, 2014). Half (50%) of the job advertisements require future employments to have substantial digital skills (ALA, 2013). It is expected that in the future ICT skills will be a requirement for over 90% of jobs in all areas (CILIP, 2014).

On the other hand, millions of people in developing and transition economy countries still do not have or have very limited access to computers and the Internet and thus, access to information. We can consider them digitally excluded. Also, a number of studies conducted in developed countries like United Kingdom and Germany reveal digital exclusion of some segments of their population. Eleven million people in Great Britain have underdeveloped digital skills (among those are people with no qualifications, low socio-economic status, over 65 years of age or people with special needs) (CILIP, 2014).

According to the study conducted in Germany by InitiativeD21 in 2010, the majority of population cannot be considered active stakeholders of digital society (35% of Germans did not use computers or the Internet and 30% of them use computers and Internet on a basic level) and it is assumed that those data had not changed considerably till 2015.

In Croatia, ICT skills studies are not conducted on a national level. However, there are some data on households' computer and Internet penetration. According to the 2011 census, out of 1,519,038 households in Croatia, 55.3% of them own a computer and 50.6% use the Internet (Croatian Bureau of Statistics, 2013). In terms of the Osijek-Baranya County, these figures are 53.0% and 47.4% respectively. These data point to a significant level of digital exclusion both in the Osijek-Baranya County and Croatia as a whole.

The Recommendation of the European Parliament and of the Council (2006) on key competences for lifelong learning suggests that it is necessary for everyone in the EU to develop key competences for lifelong learning to be able to function in a rapidly changing and highly interconnected world. Competences are defined as a combination of knowledge, skills and attitudes appropriate to the context and key competences are those which all individuals need for personal fulfilment and development, active citizenship, social inclusion and employment. The Reference Framework sets out eight categories of key competences and digital competences appear as one of those eight categories. They are defined as a "competence involving the confident and critical use of Information Society Technology (IST) for work, leisure and communication. This competence is underpinned by basic skills in ICT: the use of computers to retrieve, assess, store, produce, present and exchange information, and to communicate and participate in collaborative networks via the Internet."

A similar definition can be used for digital literacy. According to ALA (2013, 2), a digitally literate person: "possesses the variety of skills – cognitive and technical - required to find, understand, evaluate, create, and communicate digital information in a wide variety of formats; is able to use diverse technologies appropriately and effectively to search for and retrieve information, interpret search results, and judge the quality of the information retrieved; understands the relationships among technology, lifelong learning, personal privacy, and appropriate stewardship of information; uses these skills and the appropriate technologies to communicate and collaborate with peers, colleagues, family, and on occasion the general public; uses these skills to participate actively in civic society and contribute to a vibrant, informed, and engaged community".

Under influence of all the aforementioned, the nature of libraries and their services has changed considerably. "Public libraries all over the world, and particularly in the UK, are struggling to find a new, unique and vital source of value" (Chowdhury, Poulter, McMenemy, 2006, 454). All public libraries offer the use of computers and Internet access as their standard services. International research discloses a high level of ICT use in providing those services as well as providing ICT use being a library service itself. Furthermore, library staff can help users with ICT use and thus to some extent help reduce digital exclusion. That way, libraries can become places of digital inclusion or can at least help increase its level by reducing exclusion barriers. According to the American Library Association, the role of libraries in building digitally inclusive communities has never been more important than it is today but one also stresses the need to work with partners within local communities in achieving digital inclusion goals. (Clark, Archer Perry, 2015). Houghton sees those partners within local government bodies or what is commonly called decision makers. "The acceptance and support of both the politicians and the supporting levels libraries bureaucracy is vital to developing the levels of commitment and success of libraries as the digital hubs of communities" (Houghton, 2014, 58).

Achieving digital inclusion in public libraries can be done in a number of ways. Some of them involve providing access to ICT (hardware, software, broadband internet); organising computer courses such as beginner or advanced ECDL ("European Computer Driving Licence") courses; providing access to digital content (e-books, e-journals) or providing both access and help with e-services like e-government, e-citizen etc (Visser, 2013).

The research conducted by Badurina, Guinio, Silić (2015) demonstrates that libraries in Croatia are well-equipped with ICT needed for meeting the requirements of a modern information society. On average, 50% of librarians consider themselves competent in the following areas: information seeking, text editing, e-mail use, bibliographic database use, Internet security and e-citizen (public service) system use. This by itself shows the true potential of public libraries in increasing digital inclusion.

## **2. Research**

### **2.1. Research purpose and goal**

The goal of this research is to analyse the ways in which public libraries in the Osijek-Baranya County can contribute to digital inclusion in local communities. Furthermore, the idea behind the research manifests as an attempt to come up with some recommendations for reshaping the existing programmes and services aimed at facilitating digital inclusion.

Four research questions were formulated:

1. What kind of ICT do libraries offer to their users?
2. Do libraries provide their users with Internet access?
3. What kind of support do libraries provide for active ICT use?
4. How satisfied are librarians with the contribution of their libraries to digital inclusion

### **2.2. Methodology**

The **research** was done by conducting semi-structured interviews in almost all public libraries in the Osijek-Baranya County (Belišće, Beli Manastir, Čepin, Donji Miholjac, Osijek, Valpovo, Đakovo, Đurđenovac, Našice). One library was not comprised by the interviews because the head librarian

was not available during the performance of the research. In the end, nine interviews were recorded and transcribed for further analysis.

## 2.3. Results and discussion

The research results showed below are divided into four categories: ICT for users, Internet access, user support for ICT and librarians' attitudes toward digital inclusion in accordance with the four research questions.

### 2.3.1. ICT for library users

All the Osijek-Baranya County public libraries included in this research possess at least one computer intended for member use and most of them have more than one. Most libraries also provide a printer for internal patron use and some provide scanners as well. One library even renders tablet computers which can be used in the library or borrowed. The computer equipment provided by the library for patron use is primarily meant for text editing, catalogue searching, Internet access, printing and scanning but can also be and is often used for gaming, social networking, Skype calls, listening to music and video watching. Some libraries limit the time of computer use which can usually be extended if there is no one waiting for the same service. The main reason for such time limits refers to the equipment capacity which often does not match the patron interest. In other words, there are not enough computers. In all the examined libraries, there is no age limit, i.e. computers are not only for children, and in some libraries the computer use is not restricted to library members. Non-members can use computers in the same way as members can. One librarian commented that such a library policy is good promotion of library services because it often encourages computer users to become library members.

*K9 [...] we allow (the use of computer and the Internet) to library non-users too and that has turned out to be good practice because they would soon enrol. They soon felt the need to become an active library member.*

One librarian said that the use of the Internet in her library was not free:

*K3 The computer equipment in the library can be used by non-members as well but both members and non-members have to pay a fee for the use, depending of the time spent.*

Most librarians estimate that the amount of computer equipment intended for users meet the users' needs although librarians mostly comment that it would be useful to have more computers. With more computers they would not need to limit the time of computer use. The main problem that prevents them from acquiring more computers mostly refers to finance and partly to the lack of space.

### 2.3.2. Internet access for both library users and non-users

Some libraries provide free Internet access. In one library Internet access is free if users use their own computer via the library Wi-Fi but it is charged if working on a library computer.

In one library there was an available Wi-Fi but the interviewed librarian that did not know about it. He said that he used the nearby café's Wi-Fi and was not aware of a library one even when pointed to it on a smartphone.

Beside personal contact upon enrolment, most libraries use library web pages or Facebook pages to advertise their services. That way they can promote their services to non-users as well.

Only one library in the Osijek-Baranya County offer digital material like e-books.

*K7 We have on tablets some [e-books] we have bought, some 200 e-books of all genres. It's not used much. There were some [users] interested that used them in the library, but everyone likes to take them home, more than read them here. They are not used much but users know we have them.*

All the other libraries offer access to online materials in the form of open access.

### 2.3.3. Library support for active ICT and e-service use

Some libraries occasionally organize basic computer use workshops, mostly for elderly people. Two libraries have organized tablet computer use workshops. Those libraries have also organized advanced computer use workshops for librarians as part of their vocational training. Despite these examples, the majority of libraries in the Osijek-Baranya County do not organize any computer use workshops for their users. As the main reasons for that librarians usually mention a lack of staff even for the library basic services, let alone some additional programmes. The additional reasons encompass the lack of equipment and funds necessary for purchase of additional equipment. Only two librarians mentioned the lack of competences. One librarian expressed the opinion that digital literacy is extremely important and she plans to organize computer courses for elderly and to acquire new equipment, such as a 3D printer, to appeal to young people to start using the library. None of the libraries in this study plans to organize Internet information seeking workshops. One librarian commented that their users would not be interested in such a programme.

*K1 Actually we didn't think that there would be an interest in this kind of a workshop considering that people nowadays are quite versed in everyday information seeking process*

Two librarians said that they were more than willing to help with information seeking but on individual level. Most libraries do not organize workshops on public services like e-Citizens and only one encourage users to try the national "Ask a librarian" service.

### 2.3.4. Librarians' attitudes toward digital inclusion

Not only that some libraries do not do much about digital inclusion but they also do not consider it be very important. They do not regard libraries as an important factor in achieving wide digital literacy.

*K1 We would like library to stay a library as it is now. To promote a printed medium, not to forget about it. Digital media is something young generations grow up with and understand better so I don't see a future of library in that.*

On the other hand, most librarians think that their libraries do not do enough to increase the level of digital inclusion. As the main reasons for such an assertion, they mention the lack of equipment, funds and space. Some librarians expressed the opinion that they do for digital inclusion as much as they

can (considering available staff and equipment) and although they are satisfied with their own contribution in this view, most of them believe that all together it is not enough and more should be done.

*K9 I think that today without modern technologies a person is left excluded from all that happens in the world, in fact, when I think of only one day without a cell phone I don't know what I would do. That is the way of life today that we need information now and always and I think that libraries also have to face a challenge, that without this they cannot function and that "paper" services are just not enough anymore. Although in the end a paper book is valuable, but I think that without digital technologies we cannot survive.*

### **3. Conclusion**

Public libraries possess a significant potential for raising the level of digital inclusion in respective local communities. In this context they can make contributions in many different ways, from providing access to ICT (hardware, software, broadband internet) and organising computer workshops to providing access to digital content (e-books, e-journals) and both access and help with e-services such as e-government, e-citizen etc. Considering all this, one can conclude that most libraries in the Osijek-Baranya County fulfil their potentials only partially. More financial resources intended for purchasing new equipment and providing more staff and space would diminish at least the level formal barriers that limit the potential for achieving a higher level of digital inclusion.

In most libraries computer courses and workshops aimed at computer use and information seeking are very sporadic and usually organized only for elderly people. Up to some extent this can be explained by the lack of equipment, staff and space as stated by most librarians but the courses and workshops are sporadic even in libraries with no such problems. Most librarians have expressed positive attitudes toward digital inclusion programmes at least on a declarative level but some very traditional library views still exist. Only one librarian expressed the opinion that libraries should not take part in digital inclusion efforts. In conclusion, it can be established that the digital inclusion programmes in the Osijek-Baranya County are rather underdeveloped. The awareness of the need for digital inclusion does exist in the main but lacks realisation due to at least partly objective problems. That means that there is a lot of room for improvement but also the basis to build upon.

This research was focused on the Osijek-Baranya County and although one can expect that the results would be similar in other counties, the question is to what degree. And there is the question is of national level. Analysis of the current situation on a local level can provide assessment much needed for preparing national level guidelines for digital inclusion in public libraries. This research is a contribution to achievement of this goal on both the scientific and practical level.

Finally, it can be concluded that the increase in ICT funding for public libraries would not only support digital inclusion in the Osijek-Baranja County, but also help local communities and, potentially, lower the cost of social benefits in the long run.

### **REFERENCES**

American Library Association (ALA). (2013): *Digital Literacy, Libraries, and Public Policy. Report of the Office for Information Technology Policy's Digital Literacy Task Force*. pp.1-27.[http://www.districtdispatch.org/wpcontent/uploads/2013/01/2012\\_OITP\\_digilitreport\\_1\\_22\\_13.pdf](http://www.districtdispatch.org/wpcontent/uploads/2013/01/2012_OITP_digilitreport_1_22_13.pdf) (accessed 26 March 2016)

Ashley, B. (2014): *Evidence review of the economic contribution of libraries: Final Report of Arts Council England*, [http://www.artscouncil.org.uk/sites/default/files/download-file/Evidence\\_review\\_economic\\_contribution\\_libraries\\_2014.pdf](http://www.artscouncil.org.uk/sites/default/files/download-file/Evidence_review_economic_contribution_libraries_2014.pdf) (accessed 26 March 2016)

Badurina, B., Giunio, K., Silić, T. (2015): *Održivi razvoj i informacijska tehnologija u hrvatskim narodnim knjižnicama*, in Pšenica, D. ed: *Slobodan pristup informacijama: 15. okrugli stol* : zbornik radova, Zagreb, 2015, pp. 66-83.

Chartered Institute of Library and Information Professionals (CILIP) (2014): *Driving digital inclusion: The role of library and information professionals*. <http://www.cilip.org.uk/sites/default/files/documents/CILIP%20digital%20inclusion%20statement%20Sept%202014.pdf.pdf> (accessed 26 March 2016)

Chowdhury, G., Poulter, A. & McMenemy, D. (2006): *Public Library 2.0: Towards a new mission for public libraries as a “network of community knowledge”*, *Online Information Review*, vol. 30, no. 4, pp. 454-460. <http://www.emeraldinsight.com/doi/pdfplus/10.1108/14684520610686328>(accessed 9 April 2016)

Clark, L., Archer Perry, K. (2015). *After Access: Libraries & Digital Empowerment: Building Digitally Inclusive Communities. A Report from the American Library Association Digital Inclusion Summit* [http://www.ala.org/advocacy/sites/ala.org.advocacy/files/content/ALA%20DI%20After%20Access\\_final\\_12%2017%2015.pdf](http://www.ala.org/advocacy/sites/ala.org.advocacy/files/content/ALA%20DI%20After%20Access_final_12%2017%2015.pdf) (accessed 8 April 2016)

Croatian Bureau of Statistics. (2013): *Census of population, households and dwellings 2011*. <http://www.dzs.hr/Hrv/censuses/census2011/results/censustabsxls.htm> (accessed 9 April 2016)

Houghton, K. (2014):*The Local Library Across the Digital and Physical City: Opportunities for Economic Development* *Commonwealth Journal of Local Governance* Issue , Vol. 15, pp. 39-60.

InitiativeD21. (2010): *Studie: Grosse Mehrheit der Deutschen ist nicht Teil der digitalen Gesellschaft*. <http://www.initiaved21.de/2010/03/studie-grosse-mehrheit-der-deutschen-ist-nicht-teil-der-digitalen-gesellschaft/> (accessed 9 April 2016)

Leadbeater, C. (2000): *The Weightless Society: Living in the New Economy Bubble*, Texere, New York, London  
*Recommendation of the European Parliament and of the Council* (2006). Official Journal of the European Union <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32006H0962&from=EN> (accessed 9 April 2016)

Visser, M. (2013): *Digital Literacy and Public Policy through the Library Lens*, *Maine Policy Review*, Vol. 22, No. 1, pp. 104-113., URL: <http://digitalcommons.library.umaine.edu/cgi/viewcontent.cgi?article=1595&context=mpr> (accessed 9 April 2016)

**Dragan Milanović, PhD.**

Faculty of Kinesiology University of Zagreb  
Horvacanski zavoj 15, 10000 Zagreb  
dragan.milanovic@kif.hr

**Sanja Šalaj**

Faculty of Kinesiology University of Zagreb  
Horvacanski zavoj 15, 10000 Zagreb  
sanja.salaj@kif.hr

**Miroslav Hrženjak**

Zagreb sports federation  
Savska cesta 137, 10000 Zagreb  
mhrzenjak@zgsport.hr

**ANALYSIS OF PROFESSIONAL WORKLOAD OF THE SPORT COACHES****ANALIZA RADNOG OPTEREĆENJA TRENERA U SPORTU****ABSTRACT**

*The main motivation for compiling this study was the desire to better define the coaching profession; provide the list of activities undertaken by coaches; specify the workload of coaches; determine the employment status of coaches as well as the rights and obligations of the employed coaches; and to optimise the demand for professional work in sport, with the goal of raising the quality of the training work in Zagreb and maximising the potential and the performance of Zagreb athletes. The total number of 642 sport coaches in Zagreb filled the 26 item questionnaire. The total average annual workload of the employed coaches in Zagreb sport is 2,412. The total annual workload of Zagreb coaches goes into a large number of coaching activities, pointing to a comprehensive approach to sport preparation. The coaches have stated that they spend 572 hours conducting various professional and organisational activities, which is 31.09 % above the legally prescribed average full annual workload of 1840 hours. There is an evident need to bridge this gap and propose a sounder distribution of specific professional activities in the total workload.*

**Keywords:** sport coaches, job, profession, training

**SAŽETAK**

*Glavna motivacija za izradu ove studije bila je želja da se bolje definira trenerska struka, aktivnosti koje provode treneri, opterećenje trenera kao i prava i obveze zaposlenih trenera s ciljem podizanja kvalitete obuke rada u Zagrebu i maksimiziranje potencijala zagrebačkih sportaša. Ukupno su 642 sportska trenera ispunili konstruiran upitnik od 26 pitanja. Ukupno prosječno godišnje opterećenje zaposlenih trenera u Zagrebu sportu iznosi 2412 sata. Ovo godišnje opterećenje zagrebačkih trenera pokazuje velik broj aktivnosti koje treneri obavljaju što ukazuje na sveobuhvatnom pristupu sportskoj pripremi. No u odnosu na Zakon o radu, treneri u zagrebačkom sportu utroše 572 sata na obavljanje raznih stručnih i organizacijskih aktivnosti, što je 31,09% iznad zakonski propisanog prosječnog punog godišnjeg opterećenja od 1840 sati. Postoji očita potreba da se premosti taj jaz i*

*predloži raspodjelu specifičnih stručnih aktivnosti u ukupnom radnom opterećenju trenera u zagrebačkom sportu.*

**Ključne riječi:** *sportski treneri, posao, stručni rad, trening*

## **1. Introduction**

Requirements for coaches are predominantly concerned with sports training and the competition process management with a view to improving the performance and the results of the athletes competing in individual and team sports. In Croatia, there have been no defined framework standards and norms for the work of sport coaches to date; no analysis of the work of coaches or their workload has been conducted – despite the specificities of the coaching profession; and the work of coaches has not been clearly defined, described and evaluated, primarily with regard to the definition of the weekly or annual workload expressed in the number of hours dedicated to a particular activity.

The main motivation for compiling this study was the desire to better define the coaching profession; provide the list of activities undertaken by coaches; specify the workload of coaches; determine the employment status of coaches as well as the rights and obligations of the employed coaches; and to optimise the demand for professional work in sport, with the goal of raising the quality of the training work in Zagreb and maximising the potential and the performance of Zagreb athletes. The necessity of defining the rights and obligations of professionals in SSGZ also arose out of the need to reach compliance with the legal provisions and legal instruments defining and regulating the employment status in the Republic of Croatia, but also out of the need to regulate and define the obligations of the professionals in sports clubs and in Zagreb sports associations.

The coach is a professional planning and programming, monitoring and executing sport training with a team or an individual athlete. Sport training, in the widest sense, is a transformation process aimed at shaping knowledge, developing abilities and mastering motor skills of athletes (Matvejev, 1999, Bompa, 2009; Milanović, 2013). Sport training is a long-term, planned and systematic process of preparation of athletes for an improved performance and better sport results. The process involves physical, technical, tactical, mental and psychological preparation of athletes, which is a result of learning and practicing under high and maximum loads at the upper limit of one's functional, motor and psychological capacities.

Coaching is an extremely complex, sensitive and responsible job. The competences and the knowledge required for the coaching job are very extensive, whether it involves coaching of the youngest age groups or national teams, and becoming more so by the day, both in terms of their scope and their quality. The body of scientific and professional evidence related to the coaching profession is becoming increasingly important and, in some top-level sports, makes the key difference in the success of the coaches and, consequently, in the success of the athletes and the teams which they coach.

## **2. Methodology**

For the purpose of collecting detailed general information and determining the current workload of sport coaches in Zagreb sport, a questionnaire consisting of 29 questions (items) was designed. The 25 of the questionnaire items were targeted at collecting general information on the coach and some professional aspects of the coach's work. The special focus of the questionnaire was on the professional coaching workload. For that purpose, four questions (items) were designed, each of which contained the same 16 professional coaching activities. Three of the four questions involved an estimate of the workload at the preparation, the competition and the transition periods, and the fourth one was concerned with an estimate of the total annual workload. In each of the questions,



the coaches were required to indicate the workload in working hours for each of the 16 specific professional coaching activities. 400 subjects were invited to fill out the questionnaire, 351 of which responded (87.75%). The survey was carried out at the Faculty of Kinesiology of the University of Zagreb. The coaches were invited to fill out the questionnaire in small groups over the period of 21 April – 20 May 2015. Furthermore, the same questionnaire was used to survey additional 291 coaches working in Zagreb sports clubs who are financed by clubs or sports associations out of their own sources (and who are not financed or co-financed from the public needs in sports funds of the City of Zagreb, i.e. SSGZ). The total number of 642 sport coaches was surveyed. All the collected information was analysed and the key descriptive parameters were identified.

### 3. Results

#### 3.1. Analysis of professional work of the employed Zagreb sport coaches

The professional work of Zagreb sport coaches can be divided into five basic categories: 1) planning and programming of sport preparation; 2) the training process (preparation and inspection of facilities and equipment, **implementation and management of the training process** and training analysis); 3) competitions (travelling to competitions, **participation in competitions** and competition analysis); 4) additional professional activities (scouting, testing, meetings with athletes, preparation and reporting on professional work, professional development and personal exercise); and 5) other activities (meetings with parents, educational care and health care of athletes, motivation of participants, additional work with the national teams and national team members).

The total average annual workload of the employed coaches in Zagreb sport is 2,412. The total annual workload of Zagreb coaches goes into a large number of coaching activities, pointing to a comprehensive approach to sport preparation.

In most sports overall workload of coaches varies between 2000 and 3000 hours. It should be noted that the overall workload inputs and additional professional activities, going to seminars and personal training. Total annual workload per job categories in different sports is shown in Table 1.

*Table 1 Total annual workload and workload per job categories in different sports*

	Planning and programming	Training process	Competitions	Additional professional activities	Other activities	Total annual hours	Corrected annual hours
Acrobatic rock'n'roll	526	1308	462	392	135	2821	2344
Athletics	262	1251	510	389	167	2579	2218
Badminton	88	654	317	226	182	1466	1170
Baseball	161	1015	325	500	183	2184	1731
Biatlon	100	1558	476	206	114	2454	2024
Bodybuilding	371	1352	289	108	42	2162	2055
Boxing	193	1511	201	351	103	2358	2041
Weightlifting	184	775	377	829	233	2398	1771
IceHockey	136	500	529	160	71	1396	1066
Hockey	357	886	452	465	335	2495	2092
Wrestling	221	1085	864	557	287	3013	2374
Sailing	144	1286	927	288	206	2851	2464
Judo	276	1162	732	621	330	3121	2488
Kayak-canoing	141	1415	265	339	234	2394	2033
Karate	224	1200	635	408	159	2626	2230
Basketball	359	1230	446	613	272	2920	2470

	Planning and programming	Training process	Competitions	Additional professional activities	Other activities	Total annual hours	Corrected annual hours
Bowling	138	823	827	442	111	2341	1967
Fencing	70	1236	524	373	94	2297	2011
Soccer	261	995	366	486	205	2313	1919
Volleyball	322	1004	457	427	205	2414	2004
Beach Volleyball	149	1214	549	241	253	2406	2058
Swimming	157	1536	499	316	154	2661	2337
Rugby	210	827	680	513	197	2427	1776
Rhythmic gymnastics	236	463	561	308	419	1987	1478
Handball	304	963	556	476	171	2471	2089
Synchronisedswimming	196	1120	372	272	46	2006	1910
Skiing	203	1763	256	217	143	2582	2403
Diving	310	957	560	195	64	2086	1863
Softball	290	824	631	568	162	2474	1770
Gymnastics	195	1526	481	304	87	2593	2239
Squash	78	696	374	308	203	1659	1278
Table tennis	195	1383	551	490	265	2883	2430
Archery	348	1446	336	306	246	2682	2262
Shooting	156	1430	876	328	96	2885	2271
Chess	300	974	208	233	302	2017	1611
Taekwondo	229	1224	554	185	75	2266	1988
Tennis	227	952	484	431	224	2319	1835
Triathlon	159	1818	196	354	84	2610	2405
Skating	245	1026	161	316	164	1912	1789
Waterpolo	146	949	408	356	102	1960	1589
Rowing	168	2002	597	421	222	3410	3040
<b>Total 1 and Total 2</b>						<b>2412</b>	<b>2022</b>

Source: Study on pedagogical standards and work norm of coaches in Zagreb (Bok et al., 2015)

However, the analysis of the annual workload provided below excludes the activities financed from other sources and the activities which the coaches consider to be their personal responsibility (travelling to competitions, professional development and personal exercise, and additional work for the national team), in the total amount of 390 hours. When this number of hours is deducted from the number of 2,412 hours, the total annual workload of the employed coach of 2,022 hours is set. This is above the legally determined annual full-time norm of 1,840 working hours, but in compliance with the Labour Act provision foreseeing a total of 180 hours of overtime work in a year.

**Analysis of the professional work of the employed coach according to the activity category** Zagreb coaches annually spend an average of 220 hours on **planning and programming sport preparation**. The largest number of working hours (1,155) is dedicated to the activities related to the **implementation of the training process**: preparation and inspection of the facilities in which the training takes place, the implementation and management of the training process and the training analysis. This activity category accounts for 46% of the total workload. The largest proportion of this category of activities refers to the immediate training implementation (82.28%), while the facility preparation and inspection and the training analysis account for 8.32% and 9.40% of the workload, respectively.

Furthermore, 485 hours are spent on the **competition** activity category. Travelling to competitions and back accounts for 37.17% of the workload in this category. The rest of the workload is distributed between the participation in competitions and the competition analysis, with 49.31% and 13.52%, respectively. In an annual training cycle, coaches spend 553 hours carrying out the activities within the remaining two categories: **additional professional activities** (scouting, testing, meetings with athletes, preparation and reporting on professional work, professional development and personal exercise) and **other activities** (meetings with parents, educational care and health care of athletes, motivation of participants, additional work with the national team and national team members), on which the coaches spend an annual average of 373 hours (15.46 %) and 180 hours (7.46%), respectively.

The coaches employed in Zagreb sport spend an average of 1,516 hours on the field. Depending on the sport, this refers to the preparation, training or competitions held in a sports hall, on a court, in a sports arena or on skiing slopes. This constitutes 62.85% of their total annual workload. The activities especially demanding of the coach's mental capacities and theoretical knowledge should be highlighted.

This primarily refers to desk work, the theoretical and programming work (planning and programming of sport preparation, training analysis, competition analysis, scouting, and professional meetings with athletes). This type of work takes up an average of 527 hours a year or 21.84% of the annual workload.

The section "Analysis of professional work of Zagreb coaches in annual cycles by sports" offers a detailed analysis of the annual workload of coaches of specific sports. The analysis covers 41 sports in which coaches employed and financed under the Programme of Public Needs in Sports of the City of Zagreb are active.

### **3.2. Analysis of professional coaching work of the other Zagreb coaches**

The total annual workload of the other coaches, as determined in this study, varies greatly, ranging between 20 and 3,000 hours, averaging at 1,011 hours. The largest percentage of the hours is dedicated to the activities related to the implementation of the training process: preparation and inspection of the facilities in which the training takes place, the implementation and management of the training process and the training analysis.

This activity category accounts for 54% of the total workload. Further 16% of the hours are spent on competitions (travel, participation and analysis), and 11% on sport preparation planning and programming. As compared to the employed coaches, the other coaches spend a smaller proportion of the total workload on the additional and other activities combined, such as meetings, participant motivation or professional development, with the percentages amounting to 19 % and 24 % for the other and the employed coaches, respectively.

### **3.3. Analysis of the professional coaching work with people with disabilities**

The total average annual workload of coaches in Zagreb sport working with people with disabilities is 1,665. The total annual workload goes into a large number of coaching activities, as well as some administrative tasks. The majority of hours is spent on training implementation (an average of 1,023 hours), which is followed by preparation and inspection of facilities and equipment (an average of 130 hours) and planning and programming of sport preparation (an average of 118 hours).

For the coaches working with people with disabilities, the percentage of the workload is the highest in the category of activities related to the training process (75.01 %), as compared to all other groups of coaches. However, for this group of coaches, the workload is smaller in other activity categories (planning and programming, competitions and other professional activities) as compared to the figures for the coaches of healthy athletes.

#### 4. Discussion

The forty one sports covered by this study differ in the level of organisation, the development of their sport infrastructure, the number of athletes, the sport results, the revenues and expenditures, the number of the employed coaches, the level of education of the employed coaches, and many other parameters. The matter becomes even more complex if we take into account the fact that, in addition to all of the responsibilities that coaches have in immediate coaching work with the athletes, the coaches are exposed to constant validation, assessment and criticism from their employer – the club, the sports association, the professional programme or professional coaching commission, the management board – and that they must meet the selection process criteria of the Zagreb Sports Federation for determining the status of the sports clubs covered by the Programme of Public Needs in Sports of the City of Zagreb, i.e. the eligibility for funding under the Programme.

After the survey was conducted and after the mean values and other statistical indicators of the work of the Zagreb coaches were calculated, the results related to the specific sports were sent to respective city sport associations. They were asked to provide their input on the matter, list all of the problems that they face related to the professional work, express their opinions, provide suggestions, criticism, personal attitudes, etc. Furthermore, the secretaries of the city sport associations were asked to provide their opinions related to other problems in the specific sport that have an indirect impact on the quality of the professional work of the coaches, for example, problems related to the sport facilities, financing, status of the sport within the Programme of Public Needs in Sports of the City of Zagreb, etc.

City sport associations remarked that during the interpretation of the results, certain features of specific sport groups should be taken into account. In team sports, for example, volleyball, soccer, handball or softball, the optimum number of athletes in a training session is dictated by the propositions the sport, the size of the sport facility, and rules of the game.

In individual sports, several basic problems with strong or mild repercussions on the professional work of the coach were identified. One aspect of the problem is related to an insufficient number of sport facilities and the deficiencies of the existing infrastructure. For example, the City of Zagreb does not have a sport facility that fully complies with all of the standards prescribed by FINA for the sport of diving, while in badminton, the problem with facilities concerns technical specifications: the minimum height must be eight meters, the surface should not be slippery, and the facilities should be equipped with adequate heating, at least during the three coldest months of the year.

One of the conclusions of this study, based on the carefully collected and analysed results and all of the written and oral suggestions, ideas, etc., is that coaching is a very noble profession and that the numerous results achieved by Zagreb athletes in major international competitions are largely a result of the professionalism, sacrifice, motivation and enthusiasm of Zagreb coaches.

The legal norm for the employee of a sports club is 1,849 working hours. In most cases, this number of working hours is realised over a six-day work week and forty-hour weekly workload. The Labour Act prescribes a 40-hour weekly work time, but the possibility of setting a shorter duration of the full working hours can be agreed under the same Act, special acts, the collective agreement, the agreement between the workers council and the employer, or the employment contract.

If working hours of the coach are unevenly distributed, the coach can work more than 40 hours during certain weeks, but the annual workload should not exceed **180 hours of overtime work**. Consequently, if the coach conducts professional activities that amount to 180 hours of overtime work on an annual basis, according to the previously mentioned indicators that take into account the weekends, annual leave and public holidays, the total workload can amount to 2,020 hours which is 9.78 % above the full annual workload of 1,840 working hours.

In exceptional cases, if the coach conducts professional activities at an intense pace, in accordance with the specific features of the periodisation of the annual cycle, the workload can include up to 250 hours of overtime work, if such a possibility is foreseen under the law or the collective agreement. In that case, the total annual workload can amount to 2,090 working hours, which is 13.59 % above the full annual workload.

The workload of sports coaches employed by the sports clubs or the branch sports association, according to the results of the survey, significantly exceeds the legally prescribed norm of the average full annual workload of 1,840 hours, amounting up to 2,412 hours. The coaches have stated that they spend 572 hours conducting various professional and organisational activities, which is 31.09 % above the legally prescribed average full annual workload of 1840 hours. There is an evident need to bridge this gap and propose a sounder distribution of specific professional activities in the total workload.

## 5. Conclusion

This, probably largest study into coaches and their work in Zagreb and Croatia, involved a survey of 351 coaches who receive salaries from the Programme of Public Needs in Sports of the City of Zagreb and 291 coaches who receive salaries from their sports clubs or who work as volunteers. Also, the study included 50 secretaries of sports associations who are members of the Zagreb Sport Federation.

The profile of an average sport coach employed in the City of Zagreb can be determined on the basis of the conclusions reached in the project study, which drew on the collected general information on the status of the coach and the indicators of the specific and total workload. Currently, the average Zagreb coach works 2,022 hours in a year, which, according to the defined standards and norms, exceeds the allowed annual overtime work of 180 hours, which in total amounts to 2,020 hours per year, by only two hours.

## REFERENCES

- Bok, D., Čustonja, Z., Hrženjak, M., Krističević, T., Matic, I., Milanović, D., Ricov, J., Šalaj, S. i Škegro, D. (2015). *Pedagoški standardi i normativi rada trenera u sportu*. Zagreb: Sportski savez Grada Zagreba i Sveučilište u Zagrebu Kineziološki fakultet.
- Bompa, T.O. (2006). *Periodization: Theory and methodology of training*. Champaign, IL: Human Kinetics.
- Matvejev, L.P. (1999). *Osnovi suvremenog sistema sportivnojtrenirovki*. Moskva: Fizkultura i sport.
- Milanović, D. (2013). *Teorija treninga – kineziologija sporta*. Zagreb: Kineziološki fakultet Sveučilišta u Zagrebu.

**Ivana Pavić, Ph. D, assistant professor**

University of Zagreb, Faculty of Economics & Business/Department of Accounting  
J. F. Kennedy Square 6, HR 10 000 Zagreb, Croatia  
Phone: +385 1 238 3236, Fax: +385 1 233 5633  
ipavic@efzg.hr

**Ivana Mamić Sačer, Ph. D, associate professor**

University of Zagreb, Faculty of Economics & Business/Department of Accounting  
J. F. Kennedy Square 6, HR 10 000 Zagreb, Croatia  
Phone: + 385 1 238 3126, Fax: +385 1 233 5633  
imamic@efzg.hr

**Nikolina Dečman, Ph. D, assistant professor**

University of Zagreb, Faculty of Economics & Business/Department of Accounting  
J. F. Kennedy Square 6, HR 10 000 Zagreb, Croatia  
Phone: +385 1 238 3236, Fax: +385 1 233 5633  
ndecman@efzg.hr

**DO FREQUENT CHANGES OF IFRSs CAUSE PRACTICAL  
APPLICATION PROBLEMS IN CROATIA?**

**UZROKUJU LI UČESTALE PROMJENE IFRS-a PROBLEME PRAKTIČNE  
PRIMJENE U HRVATSKOJ?**

**ABSTRACT**

*Due to the increasing number of International Financial Reporting Standards' (IFRSs) users and the efforts of the International Accounting Standards Board to provide quality rules in the preparation of basic financial statements, the IFRSs are frequently revised and changed. This can cause problems of practical nature for IFRS's users around the world. Some of these changes occur in order to improve existing standards. The other ones define completely new recognition and measurement rules for financial statement elements or eliminate the possibility of using some alternative procedures previously allowed by particular IFRS. Acknowledging that the IFRSs are subject to frequent changes and knowing that it represents comprehensive and complex set of accounting rules it is important to keep up to date with those changes and to translate them into the official national languages. During that process, some problems associated with adequate interpretation and translation of IFRSs from the original English language into the national languages can occur. Continuous changes in standards also require continuous education of accountants which can pose additional administrative and financial burden for enterprises. Since the financial statements should be prepared in accordance with adopted accounting standards, it is of greatest importance for accountants to be in line with the latest changes in IFRSs. The IFRSs are indispensable in the Croatian financial reporting system, especially for large and quoted companies. Empirical research was conducted in order to find out whether the changes in IFRSs cause problems to accountants in Croatia. The target respondents were the accountants employed by large and quoted companies in Croatia which are obliged to apply the IFRSs. The main goal of the research paper was to determine whether and to what extent users of IFRSs face with the*

*problem of understanding the standards that result from the changes in standards and inadequate translation into the national language.*

**Keywords:** *Croatia, changes in standards, financial reporting, IFRS, problems*

### **SAŽETAK**

*Zbog sve većeg broja korisnika, ali i zbog nastojanja IASB-a da osigura kvalitetna pravila za sastavljanje temeljnih financijskih izvještaja, IFRS-i se često revidiraju i mijenjaju, a nerijetko se i objavljuju sasvim novi standardi, što može uzrokovati probleme njihove praktične primjene. Dio tih promjena odnosi se na prepravljavanje i poboljšanje postojećih standarda, dok se dio njih odnosi na definiranje sasvim novih pravila priznavanja i mjerenja elemenata financijskih izvještaja ili na ukidanje dozvoljenih alternativnih postupaka. Budući da su IFRS-i standardi podložni čestim promjenama, i uvažavajući činjenicu da se radi o opsežnom i kompleksnom skupu računovodstvenih pravila, njihove promjene važno je ažurno pratiti te ih prevoditi na službeni nacionalni jezik. U tom procesu mogu se javiti problemi vezani uz neadekvatnu interpretaciju i prijevod IFRS-a s izvornog engleskog na nacionalni jezik. Kontinuirane promjene u standardima također nameću potrebu kontinuirane edukacije računovođa što može predstavljati dodatni administrativni i financijski teret za poslovne subjekte. Budući da se poslovni subjekti moraju pridržavati računovodstvenih pravila zapisanih u računovodstvenim standardima, za računovođe je važno da prilikom sastavljanja temeljnih financijskih izvještaja budu upoznati s najnovijim promjenama u IFRS-ima. IFRS-i su, u kontekstu financijskog izvještavanja, od velikog značaja u Republici Hrvatskoj. Uvažavajući tu činjenicu, provedeno je empirijsko istraživanje o tome stvaraju li spomenute promjene u standardima računovođama probleme prilikom njihove praktične primjene. Ciljana populacija bili su računovođe zaposleni u velikim i kotirajućim poduzećima u RH budući da su oni obveznici primjene IFRS-a. Cilj istraživanja bio je utvrditi susreću li se i u kojoj mjeri korisnici IFRS-a s problemom razumijevanja standarda koji nastaju kao rezultat promjena u standardima i neadekvatnih prijevoda standarda na nacionalni jezik.*

**Ključne riječi:** *Hrvatska, promjene u standardima, financijsko izvještavanje, IFRS, problemi*

## **1. Introduction**

Internationally accepted accounting standards are submissive to changes due to large number of their users and the growing number of different interest groups. Scientific literature shows that the process of adopting accounting standards is not only a technical matter, it has a much wider social and economic significance. In other words, when it comes to the standard setting process it is not only important to "find the right answer" but also the choice between several alternatives presented by individuals and groups with conflicting interests (Kwok and Sharp, 2005, 74-99). Stakeholders, among which the most important are standards-setters, capital market participants, accountants, analysts and international organizations of various profiles, do not always have the same interests regarding the financial reporting. The process of adopting International Financial Reporting Standards is a lengthy and complex process in which, beside members of the IASB, are included different stakeholders. They are invited to give comments and suggestions on the proposed draft standards before their final adoption. The influence of different interest groups in the process of adopting standards certainly has an impact on their final content. The IFRSs are of great importance, not only for international financial reporting, but also for national systems of financial reporting. Precisely due to the global importance of IFRSs it is not always easy to reconcile the

demands of such a large number of their users and adapt them to the needs of different countries. As a result, the Standards are a subject of constant modifications and changes. The IFRSs are of great importance in Croatia, particularly in the financial reporting of quoted and large companies which are obliged to apply the IFRSs. Empirical research was conducted in order to determine whether and to what extent changes in the standards cause problems to accountants in their practical application in the Croatia.

## **2. Theoretical background**

### **2.1. Why are the standards changing?**

One of the most significant phenomena, which marked the second half of the 20th century, is the globalization of economic activities. In today's business environment, it is impossible for the country to "hide" behind its national borders. Moreover, companies cannot only passively observe the contemporary globalization processes which affects world flows of production, capital, exports, imports, labour mobility and similar (Veselica, 2007, 3). These processes unequally affect developed, as well as, undeveloped countries around the world. Consequently, certain poor countries become even poorer and the rich even richer. The globalization processes impose the strict rules of international business, which are forcing the countries to adjust to these rules if they want to survive in the contemporary business world. Financial reporting rules, shaped into accounting standards, allow users from the different parts of the world to receive credible insight into the operations of enterprises and they are significantly contributing the regulation of international business. Instruments for harmonisation of financial reporting rules play an important role for achieving this goal. IFRSs and US GAAP are recognised as standards with the dominant use around the world. In October 2002, American and international accounting standard setters, the FASB and the IASB contracted a Norwalk agreement which have made a significant step toward formalizing their commitment in convergence of the US GAAPs and the IFRSs. In this Agreement, the FASB and the IASB committed to put enormous effort to ensure that their financial reporting standards become more comparable. They aimed to achieve a higher quality of financial reporting at the international level. Signing the Norwalk agreement substantially prompted the revision of existing IAS and intensified the creation of new standards, called International Financial Reporting Standards. Besides Norwalk agreement, it is possible to identify several factors that influence the dynamics of change of standards content: (a) the need for harmonization of financial reporting at the international level (b) recommendations and requirements of relevant international organizations such as the World Bank, the European Union, IOSCO, SEC, FASB, (c) the requirements of stakeholder such as banks, auditing firms, insurance companies, etc., (d) insufficient quality of existing standards, (e) reducing the allowed alternative procedures in the standards, (f ) lack of regulation of certain accounting areas in the existing standards and similar (Sever, 2013, 46).

### **2.2. Dynamics of changes in standards**

Although the International Accounting Standards Committee (IASC) was established in 1973, with the aim of developing internationally acceptable and applicable accounting standards, the first standards were issued in 1975. All the standards issued by the year 2000 are presented under the name International Accounting Standards (IAS). After 2001, when the Committee changed the organizational structure and its name in the International Accounting Standards Board (IASB), the name of the standards was also modified. From 2002 until today, they are presented under the name of International Financial Reporting Standards (IFRSs).



**Table 1 IASs which have been revised, repealed or not significantly changed**

<b>IASs which have been revised and the year of their issuance</b>	
IAS 1 – Disclosure of Accounting Policies	1975.
IAS 2 – Inventories	1975.
IAS 7 – Statement of Changes in Financial Position	1977.
IAS 8 – Unusual and Prior Period Items and Changes in Accounting Policies	1978.
IAS 10 - Contingencies and Events Occurring After the Balance Sheet Date	1978.
IAS 11 - Accounting for Construction Contracts	1979.
IAS 12 - Accounting for Taxes on Income	1979.
IAS 14 - Reporting Financial Information by Segment	1981.
IAS 16 - Accounting for Property, Plant and Equipment	1982.
IAS 17 - Accounting for Leases	1982.
IAS 18 - Revenue Recognition	1982.
IAS 19 - Accounting for Retirement Benefits in Financial Statements of Employers	1983.
IAS 20 - Accounting for Government Grants and Disclosure of Government Assistance	1983.
IAS 21 - Accounting for the Effects of Changes in Foreign Exchange Rates	1983.
IAS 22 - Accounting for Business Combinations	1983.
IAS 23 - Capitalisation of Borrowing Costs	1984.
IAS 24 - Related Party Disclosures	1984.
IAS 27 - Consolidated Financial Statements and Accounting for Investments in Subsidiaries	1989.
IAS 28 - Accounting for Investments in Associates	1989.
IAS 29 - Financial Reporting in Hyperinflationary Economies	1989.
IAS 32 - Financial Instruments: Disclosure and Presentation	1995.
IAS 33 - Earnings Per Share	1997.
IAS 34 - Interim Financial Reporting	1998.
IAS 36 - Impairment of Assets	1998.
IAS 38 - Intangible Assets	1998.
IAS 39 - Financial Instruments: Recognition and Measurement	1998.
IAS 40 – Investment Property	2000.
IAS 41 – Agriculture	2000.
<b>IASs which have been repealed and the year of their issuance</b>	
IAS 3 -Consolidated Financial Statements	1976.
IAS 4 - Depreciation Accounting	1976.
IAS 5 - Information to be Disclosed in Financial Statements	1976.
IAS 6 - Accounting Responses to Changing Prices	1977.
IAS 9 - Accounting for Research and Development Activities	1978.
IAS 13 - Presentation of Current Assets and Current Liabilities	1979.
IAS 15 - Information Reflecting the Effects of Changing Prices	1981.
IAS 25 - Accounting for Investments	1986.
IAS 30 - Disclosures in the Financial Statements of Banks and Similar Financial Institutions	1990.
IAS 31 - Interests In Joint Ventures	1990.
IAS 35 - Discontinuing Operations	1998.
<b>IASs which have not significantly changed and the year of their issuance</b>	
IAS 26 - Accounting and Reporting by Retirement Benefit Plans	1987.
IAS 37 - Provisions, Contingent Liabilities and Contingent Assets	1998.

Source: Authors according to the data available on: <http://www.iasplus.com> (accessed 03 March 2016)

Financial statements do not provide external users with all the necessary information, but they provide information about the financial stability, efficiency and the ability of the company to generate cash flows. Although, in different countries companies need to prepare the same financial statements such as balance sheet, income statement or cash-flow statement, there are certain differences among them. These differences are reflected in the different definitions as well as different criteria for recognition and measurement of financial statements elements. IASC committed itself to eliminate identified differences e.g. to harmonize accounting principles, policies and procedures applicable in the preparation of financial statements using the International

Accounting Standards. In doing so IASC tried to make the International Accounting Standards applicable and acceptable for the usage in different countries around the globe through the adjustment of the existing or through the issuance of new accounting standards. Although the principle of simplicity and focus only on the important issues was highlighted in 1983, the relevant domestic authors believe that the IASC activities in 1996 were just the opposite. They consider that the revised and new standards deal with not only essential matters but also unimportant ones for financial statements users (Grupa autora, 2001, 14).

Table 1 gives an overview of the International accounting standards that have been revised, repealed or not significantly changed and includes their original name and the year of their issuance. As it can be seen in the table 1, the IASC issued a total of 41 accounting standards, including the two standards that have not been significantly changed since their initial publication (IAS 26 and IAS 37). 28 of them have been significantly changed and even 11 of them have been repealed until today. It should be noted that three important accounting standards will soon be repealed. These are (1) IAS 18 - Revenues and (2) IAS 11 - Construction Contracts that will be superseded with the new standard IFRS 15 - Revenue from Contracts with Customers and (3) IAS 17 - Leases, which will also be superseded with the new standard IFRS 16 - Leases. The above mentioned changes speak in favor of the fact that standards are not static category, they are constantly changing, which requires continuing education of their users.

**Table 2** *IFRSs which have been revised, repealed or not significantly changed*

<b>IFRSs which have been revised and the year of their issuance</b>	
IFRS 1 - First-time Adoption of International Financial Reporting Standards	2003.
IFRS 2 - Share-based Payment	2004.
IFRS 3 - Business Combinations	2004.
IFRS 5 - Non-current Assets Held for Sale and Discontinued Operations	2004.
IFRS 7 - Financial Instruments: Disclosures	2005.
IFRS 8 - Operating Segments	2006.
IFRS 9 - Financial Instruments	2009.
IFRS 10 - Consolidated Financial Statements	2011.
IFRS 11 - Joint Arrangements	2011.
IFRS 12 - Disclosure of Interests in Other Entities	2011.
<b>IFRSs with minor changes</b>	
IFRS 6 - Exploration for and Evaluation of Mineral Assets	2004.
IFRS 13 - Fair Value Measurement	2011.
<b>IFRSs without changes</b>	
IFRS 4 - Insurance Contracts	2004.
IFRS 14 - Regulatory Deferral Accounts	2014.
<b>IFRSs that are not effective yet</b>	
IFRS 15 - Revenue from Contracts with Customers	2014.
IFRS 16 - Leases	2016.

Source: Authors according to the data available on: <http://www.iasplus.com> (accessed 03 March 2016)

After 2001, the IASB begins with the issuance of accounting standards known as the International Financial Reporting Standards. These standards were created mainly as a result of IASB cooperation with FASB in order to achieve a higher degree of harmonized accounting rules at the international level. Table 2 shows the dynamics of the IFRSs publication. For each standard we can see whether it has changed over the time. Although the IFRSs represent relatively new standards, only four standards that are currently in force have not experienced significant changes (IFRS 4, IFRS 6, IFRS 13 and IFRS 14). Two of which are related to the specific industries (IFRS 4 and IFRS 6) and one entered into force on the first of January 2016 (IFRS 14). The IFRS 15 and

just published IFRS 16 are still unchanged since they have not been implemented yet. Therefore, their possible shortcomings for now cannot be perceived.

The analysis of the changes in the IASs/IFRSs shows that a relatively small number of the standards have not been changed since their initial publication. Further, a certain number of standards have been completely repealed. Insufficiently regulated accounting issues as well as the changes in business environment resulted with the issuance of new standards. Since 2003, the IASB issued 16 entirely new standards entitled the International Financial Reporting Standards. Furthermore, the IASB continuously carries out the projects called “annual improvements of standards” in order to eliminate their shortcomings and make them understandable to their users. Such projects include several standards that are not interconnected in order to: (a) clarify terminology or content of the IFRSs or (b) resolve a conflict between existing requirements of IFRSs (IASB, 2013).

### **3. Empirical analysis of weather and to what extent do the changes in IFRSs cause problems to accountants in Croatia**

#### **3.1. Designing the research model**

The IFRSs are indispensable in the Croatian financial reporting system. Empirical research was conducted during 2013 in order to find out whether the changes in the IFRSs cause problems to the accountants in Croatia. For the purposes of the research, the questionnaire was designed. The target population were the accountants employed in large and quoted companies in Croatia since they are, in accordance with the Accounting Act (Official Gazette 109/07, 78/15 and 134/15), obliged to apply IFRSs. Quoted companies in Croatia include not only large enterprises but also the medium-sized ones. The questionnaires were sent to the accountants in the above-mentioned enterprises by electronic mail. The survey included 263 respondents. The sample was selected randomly based on the Register of Annual Financial Statements. A total of 55 questionnaires were collected during the survey, which represents the return rate of 20.9%. The companies whose employees participated in the survey are classified as medium-sized companies (18,2%) and 81,8% of them are large companies. Most of the companies whose representatives participated in the study are not quoted in securities markets (55%). The main objective of the empirical research was to identify the Standards that cause application problems in the Republic of Croatia. Two possible reasons for those problems were identified: the difficulties with tracking standards changes and the problems with understanding the Standards' content. These implementation obstacles can lead to the unequal application of the Standards in business practices and thus to partially incomparable and insufficiently informative financial statements. Based on the defined research objective, two research questions were designed:

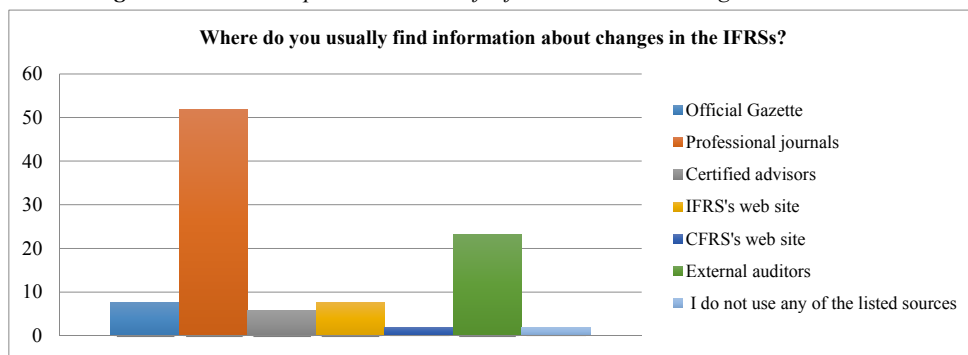
- (1) Do common changes in standards cause problems of the IFRSs application?*
- (2) Does improper translation in Croatian language cause problems to the IFRSs' users?*

#### **3.2. Research results**

In Croatia, the accountants can find information about the changes in the IFRSs in different sources: directly in the Standards, professional journals, National Gazette etc. In line with this, the respondents were asked to point out the source they use to track the changes in the International Financial Reporting Standards (Figure 1). Half of the respondents considered professional accounting journals as the most important source of information that they use. Professional

journals promptly monitor and publish all novelties in the field of financial reporting including the changes in the accounting and tax regulations which also, next to the accounting standards, play an important role in the preparation of basic financial statements. Moreover, information provided by external auditors is considered as a high-quality source of information about the changes in IFRSs (21.8%). An equal number of respondents monitor the IFRS's changes in the Official Gazette and on the website of the International Accounting Standards Board (7.3%). Before Croatia entered the EU, the IFRSs users in Croatia were required to apply the standards published in the National Gazette. The Committee for Financial Reporting Standards was responsible for the translation of IFRS to national language. The smallest number of accountants tracks changes in the standards using the official website of the Committee (1.8%). It is interesting to notice how only few of the respondents considered originally published IFRSs in the National Gazette as key in obtaining knowledge about the IFRSs. They rely more on the so-called "purified" and interpreted information provided by the accounting professionals. Respondents marked from 1 to 5 (where 1 represents the lowest and 5 the highest level) the usefulness of the information on the changes in the IFRSs that are obtained from the previously mentioned sources. In accordance with the established arithmetic means (M), respondents considered information obtained from the external auditors (average grade of 4.40) and information obtained from the professional consultants (average grade of 4.16) as the most useful source. Respondents considered the least useful information the one that is provided in the National Gazette (M = 3.66).

**Figure 1** The most important sources of information about changes in the IFRSs



Source: Authors according to the empirical research results

With the aim of reaching the conclusion on the comprehensibility and clarity of the standards provisions, respondents were asked whether they had ever find in practice a situation in which they interpreted and applied provision of a standard in one way and other accounting professionals (such as external auditors who conduct an annual financial statement audit, consultants employed in professional journals, etc.), in some other way. The respondents, on a scale of 1 to 5 (where 1 = never, 5 = very often) evaluated how often they were in such situation. 43.6% of respondents rarely experienced this situation and 23.6% very rare. A small number of respondents said that this situation is often (10.9%) and 1.8% points out that they are very often in this situation. Only the two of respondents had no experience with this (3.6%). The research results indicate that there are certain ambiguities in the IFRSs provisions which can, in some cases, lead to their unequal interpretation by professionals and accountants employed in the company. Levene's test has verified whether there is a statistically significant difference between variances of the sub-groups. In other words, it was tested if there is a statistically significant difference between surveyed

accountants who use the IFRSs more or less than 10 years with the interpretation of the standards provisions in relation to other professionals. Research has shown that both groups sometimes experience such situation in practice (average grade is around 3,  $M = 2.94$  for those respondents who use the IFRSs less than 10 years, and  $M = 2.71$  for respondents who use the IFRSs for more than 10 years). Research results indicate that in some cases there are certain ambiguities of the standards content. Indeed, results indicate that there is no statistically significant difference between the subgroups in their variances ( $F = 2.603$ ;  $p = 0.114$ ). T-test about the difference between two population means was performed (table 3). Results proved that the difference between the respondents with different number of years of experience in the use of IFRSs is not statistically significant ( $t = 0.944$ ,  $df = 44$ ,  $p = 0.350$ ). In other words, the frequency with which the respondents are facing disagreement in the interpretation of IFRSs in relation to other professionals is equal for the respondents with different number of years of the IFRSs experience. In accordance with aforementioned, it can be concluded that different interpretations of standards is not a consequence of their lack of knowledge, or a short work experience in the IFRSs application. Problems are reconized in very complex standards provisions.

Since the IFRSs are widely accepted standards, they constantly adapt to the information needs of users. Frequent changes in existing standards are a result of given situation. This will lead into totally new accounting standards issuing, as well. This affects financial reporting system in Croatia as well. Therefore, it was important to explore how often Croatian accountants check novelties in standards. The large proportion of respondents (49.1%) track changes on a monthly basis. On the other hand, 34.5% of them do it once a year before preparing basic financial statements. 7.3% of respondents do not track changes in the Standards as long as the external auditors do not indicate them to do so, whereas 3.6% track changes on a weekly basis. For the purpose of determining whether IFRSs are properly translated from the original English language into Croatian, which is important for understanding the content of standards and for their proper implementation, respondents were asked if the IFRSs are adequately translated into Croatian. Among all respondents, 34.5% were not familiar with the content of standards in English and they were not able to assess the quality of standards translation into the Croatian language. As for remaining respondents, 32.7% believe that the standards are generally adequately translated into the Croatian language, but that there are a small number of exceptions. 18.2% respondents consider that the translation of the standards provisions is not adequate. Only 7.3% of respondents think that the standards are translated properly. This indicates that translation of certain standards should be checked and in accordance with this, certain inconsistencies should be removed in order to improve the quality of the IFRSs translation.

**Table 3** T-test of differences between the respondents that differ in the number of years dealing with IFRSs to the extent that they have been faced with the situation to interpretate the standard differently from other professionals

	Leven's test		T-test confidence interval: 95%						
	F	P	t	df	P	Difference between arithmetic mean	Standard error of the difference	Lower	Upper
Have you ever been in a situation where you interpreted a standards provision in one way and other professionals in some other way?	2,603	,114	,944	44	,350	,230	,244	-,261	,722

Source: Authors according to the empirical research results

Respondents were asked on a scale of 1 to 5 (1 = strongly agree, 2 = mostly disagree, 3 = neither agree nor disagree, 4 = mostly agree and 5 = strongly agree) to assess several statements related to the changes in IFRSs and their implications on practical application problems. Table 4 shows the average score of respondents' answers about the extent to which they agree with the set of claims related to the tracking changes in the IFRSs and the implications of these changes on the quality of financial reporting. According to the largest average grade (M = 3.94), the respondents mainly agree with the statement that the tracking of changes in IFRSs is a very demanding task for accountants because there is no updated integral texts of standards i.e. the changes in standards are published separately. These results can be explained by the fact that the changes in the Standards have not been followed systematically and transparently in Croatia before we joined the EU. Therefore, it would be useful to establish a single database, which could help accountants to facilitate monitoring of the overall accounting regulations, especially keeping up with the changes of a complex set of accounting standards - IFRSs. *According to the respondents' answers, it can be confirmed how, due to insufficiently organized overview of the changes in IASs/IFRSs Croatian accountants face with the problem of the standards practical application.* This problem is solved very efficiently in the American accounting practice by the codification of US GAAPs in 2009 (FASB, 2014). The problems of IFRSs practical application in Croatia has not changed significantly after Croatia has joined to the European Union. Croatian Committee for Financial Reporting Standards is not in charge for the publication and translation of the IFRSs any longer. In other words, large and quoted companies should apply the IFRSs that have been adopted by the European Union and are published in the Official Journal of the European Union (European Commission, 2015). With this change, the existing deficiencies in transparency of IFRSs changes have not been removed since the changes in the standards are published in separate documents, as well. Namely an integral translation of the IFRSs is published in 2008. The process of monitoring the IFRSs changes for Croatian users could be significantly easier if they can use the purified standard texts. Publication of the complete set of updated standards would eliminate the use of different versions and editions of the standards by different users which would consequently led to a higher level of comparability and consistency of financial statements in Croatia.

**Table 4** Descriptive statistics of the respondent's agreement with the statements related to the understanding IFRSs content and changes in the Standards

	N	Min.	Max.	M	SD
Monitoring changes in the IFRSs for users of financial statements is a very demanding task, because there is no updated text of the standards and the changes in standards are published separately from the existing standards.	53	1,00	5,00	3,9412	,92546
Translations of certain IFRSs contain some shortcomings and because of that we have to contact consultants or study the original IFRSs in English in order to properly apply provisions of certain standards.	51	1,00	5,00	3,5510	1,06186
The IFRSs disclosure of information in the notes to the financial statements should be reduced in order to remain only clarifications that are materially significant, which would significantly facilitate the work of accountants.	51	1,00	5,00	3,8367	,85017
Increasing the volume of standards contributes to a better understanding of the standards content for accountants.	53	2,00	5,00	3,0392	1,07630
Changes in the standards such as the elimination of unclear provisions and more detailed explanation of the provisions in the standards, which do not affect the value of the accounting categories presented in the financial statements, increase the clarity and understanding of the IFRSs content and make its application easier for their users.	53	2,00	5,00	3,7647	,81457

*Source: Authors according to the empirical research results*

Furthermore, the statement that “translations of certain IFRSs contain some shortcomings and because of that we have to contact consultants or study the original IFRSs in English in order to

properly apply provisions of certain standards" was rated by respondents with an average grade of 3.55. *These, as well as previously presented results, suggest how an inadequate translation of standards provisions into the Croatian language causes problems in their practical application for accountants.* Since Croatian entering to the EU, the problem of the IFRSs translations has not been eliminated. The analyses of Croatian translations of certain terms from the IFRSs that are published in the Official Journal of the European Union, has shown that some shortcomings that can create additional problems in the application of standards still exists. For example, English word "loan" was translated into the Croatian language as "lease" which in essence is not the same as the term loan. Furthermore, the method of "fair value" has been translated as a method of "honest value" that is not in accordance with an expression that has been integrated in Croatian accounting practices for years. Accordingly, the updated standards translations into the national language and the removal of inconsistent translations, would contribute a better understanding of the standards content, and thus their application.

Respondents rated with the average grade of  $M = 3,83$  the statement that "IFRS should not change in the direction of reducing the requirements relating to the disclosure of information in the notes to the financial statements, in order to remain only clarifications that are materially significant". This moderately high average grade can be explained by the fact that the reduction of required disclosures will facilitate accountants work. However, such a change in the standards would not be favourable for financial statement users (potential and existing investors and other) because, in that case, the information that they receive from the financial statements would be much more concise and less informative. In this way, the conflict of interests of different stakeholders would appear again. Additionally, it is important to note that the IASB continuously emphasize that IFRSs are primarily oriented to the interests of investors and its mission is to ensure a good information basis for analysis of the company's financial position and business efficiency. The complexity in the application of standards by the accountants has been placed in the second plan. According to the research results, the respondents mostly agree that the qualitative changes in the standards (relating to detailed explanation of the provisions in the standards) make IFRSs application easier for their users ( $M = 3.76$ ). ) The statement that an increase in the volume of standards facilitates better understanding of the standards has been evaluated by the respondents with the lowest average grade ( $M = 3.03$ ). The above-mentioned research results indicate that an increase in the volume of standards will cause, in the short term, an extra burden due to absence of published updated texts that include new changes in the standards. In fact a more detailed explanation of the standard should make the IFRSs use easier because these explanations often include many practical examples.

#### **4. Conclusion**

Research has shown that the changes in the IFRSs caused problems of practical application for their users in the Republic of Croatia. These problems are primarily manifested as the problems of standards changes monitoring since such changes are not integrated into a comprehensive standard (if changes are presented as a separate document) and as inadequate translation of standards into Croatian. Nearly half of the respondents (49.1%), at least once a month, check whether some changes in the standards occurred which indicates the dynamics at which standards are changing. Respondents evaluate with high grade the statement that "the IFRSs changes monitoring is a very demanding task for the users of financial statements, because there is no updated integral text of the standards and the changes in the standards are published separately from the existing standards", making it difficult to follow and understand the change. In this context, the establishment of an institutionalized system of education on the IFRSs would certainly facilitate

the job of tracking changes in the standards and their implementation in practice for accountants in Croatia. After Croatia entered the EU, enterprises have to apply the IFRSs that are published in the Official Journal of the EU. Although initially it was considered that this fact would remove the existing lack of transparency of the IFRSs changes that did not happen. Furthermore, shortcomings of inadequate translation of original IFRSs into the Croatian language have not been removed so far. Despite the fact that IFRSs are a fundamental instrument for the financial reporting harmonization at the international level and that they consequently contribute to the quality of financial reporting, the dynamics by which IFRSs have changed represents a limitation in their application. In this context, the IASB should establish a minimum period in which the standards will not be changed. Monitoring the changes separately, compared with the full standard, is a very demanding task for the accountants when preparing financial statements. Therefore, the IASB should access the changes in a way to review the entire standard, not segment by segment, and publish such changes only after the standard is fully arranged.

## REFERENCES

Deloitte IASplus, [online] <http://www.iasplus.com> (accessed 03 March 2016)

European Commission (2015): *IAS/IFRS Standards and Interpretations*, [online] [http://ec.europa.eu/finance/accounting/ias/index\\_en.htm](http://ec.europa.eu/finance/accounting/ias/index_en.htm) (accessed 03 March 2016)

FASB, (2002): *Memorandum of Understanding, Norwalk Agreement*. [online] <http://www.fasb.org/news/memorandum.pdf> (accessed 03 March 2016)

FASB (2014): *FASB Accounting Standards Codification - About the Codification*, [online] <https://asc.fasb.org/imageRoot/47/49128947.pdf> (accessed 03 March 2016)

Grupa autora (2001): *Računovodstvo trgovačkih društava*, Hrvatska zajednica računovođa i financijskih djelatnika, Zagreb.

IASB (2013): *Annual Improvements cycle 2010-2012*, [online] <http://www.ifrs.org/Current-Projects/IASB-Projects/Annual-Improvements/Pages/Annual-Improvements-landing-2012.aspx> (accessed 03 March 2016)

Kwok, W.C.C., Sharp, D. (2005): *Power and international accounting standard setting, accounting*, Auditing and accountability journal, Vol. 18, pp. 74 – 99.

Narodne Novine (2015): *Zakon o računovodstvu*, NN 109/07, 78/15 i 134/15.

Sever, I. (2013): *Utjecaj promjena Međunarodnih standarda financijskog izvještavanja na financijsko izvještavanje – slučaj priznavanja i mjerenja prihoda*, Zbornik Ekonomskog fakulteta u Zagrebu, Vol. 11, No. 2, pp. 37-53.

Veselica, V. (2007): *Globalizacija i nova ekonomija*, Grupa izdavača, Zagreb.



**Ph.D. Željko Požega**

Faculty of Economics in Osijek

31 000 Osijek, Croatia

Phone: 00-385-31/224-454 Fax: 00-385-31/211-604

zpozega@efos.hr

**Vjekoslav Leko, student**

Faculty of Economics in Osijek

31 000 Osijek, Croatia

Phone: 00-385-31/211-414

leko.vjekoslav@gmail.com

**Miroslav Škoro, dipl. oec., doctoral student**

Faculty of Economics in Osijek

31 000 Osijek, Croatia

m.skoro@zg.t-com.hr

Phone: 00-385-1/462-3333

**ANALYSIS OF THE RELATIONSHIP BETWEEN THE HUMAN CAPITAL  
AND ECONOMIC DEVELOPMENT**

**ANALIZA POVEZANOSTI LJUDSKOG KAPITALA I GOSPODARSKOG  
RAZVOJA**

**ABSTRACT**

*At the present time of rapid change in political, economic, cultural and technological environment, any new knowledge, any new skills are worth a lot more than they were before, therefore, the labor force together with their skills, knowledge and abilities (human capital) should be the focus of development and improving a country's competitiveness.*

*The contribution of human capital to a country (skills and abilities that people have and that they productively use) can be a more important determinant of its long-term economic success than any other resource. This resource must be effectively invested to generate return for the individuals involved and for the economy as a whole.*

*The aim is to point out the growing need for investment in human capital, which nowadays with equal technological development makes a huge competitive advantage because the technology is so advanced and it is available to everyone so that they can create a short-term advantage, but the long-term human capital is what gives strength to companies and countries. Education is one of the key factors of economic development and should be effectively carried out in order to lay a foundation for further progress.*

**Key words:** human capital, human development index, education, competitiveness, GDP p.c.

## SAŽETAK

*U današnje vrijeme brzih promjena u političkom, gospodarskom, kulturnom i tehnološkom okruženju, svako novo znanje, svaka nova vještina vrijedi puno više nego što je bila vrijedno prije, dakle, radna snaga, zajedno s njihovim sposobnostima, znanjem i vještinama (ljudski kapital) bi trebala biti u središtu razvoja i poboljšanja konkurentnosti zemlje.*

*Doprinos ljudskog kapitala zemlji (vještine i sposobnosti koje ljudi imaju i koje se trebaju produktivno upotrijebiti) može biti važnija odrednica njenog dugoročnog gospodarskog razvoja od bilo kojeg drugog čimbenika. Ovaj resurs mora biti učinkovito uložen kako bi generirao povrat kako za pojedince koji su uključeni tako i za gospodarstvo u cjelini.*

*Cilj rada je ukazati na sve veću potrebu za ulaganjem u ljudski kapital, koji u današnje doba jednakog tehnološkog razvoja čini veliku konkurentsku prednost, jer je tehnologija toliko napredna i dostupna je svima, tako da ona može stvoriti kratkotrajnu prednost, ali dugoročno je to ljudski kapital koji daje snagu tvrtkama i zemljama. Obrazovanje je jedan od ključnih čimbenika gospodarskog razvoja i trebalo bi se učinkovito provoditi kako bi se postavili temelji za daljnji napredak.*

**Ključne riječi:** *ljudski kapital, indeks ljudskog razvoja, obrazovanje, kompetitivnost, BDP po glavi stanovnika*

### 1. Human capital and development

The Human Capital Index ranks countries (current ranking covers 124 countries) according to how well they develop and implement human resources, with an emphasis on education, skills and employment. The aim of the human capital index is to understand whether the country spends its human resources in vain or optimally exploits it and puts it into use, i.e., whether the country uses its human resources as ( ) leverage for economic development and sustainable competitiveness ( ) . (World Economic Forum, 2015)

The Human Capital Index includes a total of 46 indicators. The values for each of the indicators come from publicly available data collected by international organizations such as the International Labour Organisation (ILO), the United Nations Educational, Scientific and Cultural Organization (UNESCO) and the World Health Organization (WHO). (World Economic Forum, 2015)

The development of countries is measured by using the Human Development Index (HDI) and the domestic product per capita (GDP p.c.).

The Human Capital Index is a formula used to measure poverty, literacy, education, life expectancy and other factors for countries worldwide. Many countries have been ranked by these formulas into, developed countries (the country of the first order), developing countries (the second-order) and third world countries. The HDI measures the average achievements of a country according to three basic things related to human development (Human Development Report, 2015):

1. a long and healthy life span, measured by the duration of life from birth;
2. knowledge, measured by literacy, but also taking into account primary and secondary education, as well as, the percentage of school enrollment; and
3. a decent standard of living, measured by GDP p.c. by purchasing power parity (GDP p.c. in PPP) in US dollars. (Purchasing power parity (PPP) is the ratio of price index among the countries used for the correction of the official exchange rate, based on the rule that ( ) goods in all places must sell at the same price).

GDP p.c. by PPP is the gross domestic product converted into US dollars using purchasing power parity. GDP p.c. by PPP for the customer is the sum of gross value added by all resident producers in

the economy plus all taxes on products, which is the net of any subsidies not included in the value of the product. The formula for calculating GDP is  $GDP = C + I + G + X$ , where C is consumption, I investment, G government spending and X difference of exports and imports. GDP p.c. is gross domestic product per capita and ( ) was obtained by calculating GDP and dividing it by the population number (World Bank).

### 1.1. Analysis of human capital

The Human Capital Index serves as a tool for analyzing the complex areas of education and the workforce so that various interest groups are able to make better decisions. Human capital allows countries to monitor progress in relation to their results, and also in relation to the results of other countries. The manner in which one country addresses its formal and informal education, (ie. how many years are spent on knowledge acquisition, skills and abilities), is very important for the efficiency and competitiveness of the labor force and ( ) is measured by the average time of education expressed in years. The quality of education should also be considered in addition to the average time of education, because it provides insight into the effectiveness of education, the strengthening of human capital and the increase of competitiveness of the country.

*Table 1 Countries according to the human capital index and average time of education*

Country	Human Capital Index	Average time of education
Germany	78,55	12,9
United States of America	79,64	12,9
Australia	80,22	12,8
Norway	83,84	12,6
Israel	77,03	12,5
Canada	82,88	12,3
United Kingdom	79,07	12,3
Czech Republic	77,60	12,3
Switzerland	83,58	12,2
Denmark	82,47	12,1
Netherlands	82,30	11,9
Sweden	82,73	11,7
Russian Federation	77,54	11,7
Ireland	80,59	11,6
Japan	82,74	11,5
Luxembourg	78,79	11,3
France	80,15	11,1
Croatia	75,37	11,0
Belgium	81,12	10,9

Country	Human Capital Index	Average time of education
Austria	81,02	10,8
Finland	85,78	10,3
Greece	73,70	10,2
Italia	75,44	10,1
Argentina	71,07	9,8
Chile	71,80	9,8
Spain	73,30	9,6
Albania	67,20	9,3
Bolivia	66,46	9,2
Qatar	69,04	9,1
Mexico	68,50	8,5
Mongolia	70,75	8,3
Paraguay	65,68	7,7
Turkey	67,09	7,6
Algeria	52,14	7,6
China	67,47	7,5
Dominican Republic	62,79	7,5
Thailand	68,78	7,3
Brazil	64,60	7,2
Colombia	67,63	7,1
Ghana	62,63	7,0
Tunisia	58,21	6,5
Egypt	61,38	6,4
Vietnam	68,48	5,5
Nepal	56,77	3,2

Source: OECD, <https://data.oecd.org/>

An average number of years of education over 11.6 years is typical of highly developed countries which are competitive. From Table 1, we can see that the top 14 countries with the highest average number of years of schooling on average, are also countries with the highest human capital index. Also, according to ( ) education system quality, countries with a longer average time of education, have a better education system, and therefore, stand out. Those countries are: Finland, United Kingdom, Canada, Netherlands, Denmark, Ireland, Germany, Russian Federation, United States of America, Australia and so on.

## 1.2. Analysis of human capital, GDP p.c. and HDI

In Table 2, we can see that countries in the sample have their own ranking according to the human capital index, and that among the top 10 countries from the sample are the countries: Finland, Norway, Switzerland, Canada, Japan, Netherlands and Belgium. These are also ( ) countries which belong to the group of most developed countries of the world and have a high GDP p.c.

*Table 2 The Human Capital Index and GDP p.c. by countries in the sample in 2015*

Country	Human Capital Index	BDP p.c. (USD)	Ranking by Human Capital Index	Unemployment rate	Public expenditure on education (% of GDP)	HDI
Luxembourg	78,79	116664,30	21	5,8	-	0,892
Norway	83,84	97307,40	2	3,5	6,87	0,944
Qatar	69,04	96732,40	56	0,3	2,45	0,850
Switzerland	83,58	85597,30	3	4,4	5,28	0,930
Australia	80,22	61925,50	13	5,7	5,12	0,935
Denmark	82,47	60707,20	7	7,0	8,74	0,923
Sweden	82,73	58938,80	6	8,1	6,98	0,907
United States of America	79,64	54629,50	17	7,4	5,42	0,915
Ireland	80,59	54374,40	12	13,1	6,15	0,916
Netherlands	82,30	52172,20	8	6,7	5,93	0,922
Austria	81,02	51190,80	11	4,9	5,80	0,885
Canada	82,88	50235,40	4	7,1	5,40	0,913
Finland	85,78	49823,70	1	8,2	6,76	0,883
Germany	78,55	47821,90	22	5,3	5,08	0,916
Belgium	81,12	47352,90	10	8,4	6,55	0,890
United Kingdom	79,07	46332,00	19	7,5	6,23	0,907
France	80,15	42732,60	14	10,4	5,68	0,888
Israel	77,03	37208,00	29	6,3	5,64	0,894
Japan	82,74	36194,40	5	4,0	3,86	0,891
Italia	75,44	34908,50	35	12,2	4,29	0,873

Country	Human Capital Index	BDP p.c. (USD)	Ranking by Human Capital Index	Unemployment rate	Public expenditure on education (% of GDP)	HDI
Spain	73,30	29767,40	41	26,3	4,98	0,876
Greece	73,70	21498,40	40	27,2	4,09	0,865
Czech Republic	77,60	19529,80	25	7,0	4,51	0,870
Chile	71,80	14528,30	45	6,0	4,52	0,832
Croatia	75,37	13475,30	36	17,3	4,31	0,818
Russian Federation	77,54	12735,90	26	5,5	4,10	0,798
Argentina	71,07	12509,50	48	7,1	6,26	0,836
Brazil	64,60	11384,40	78	6,5	5,82	0,755
Turkey	67,09	10515,00	68	8,7	2,86	0,761
Mexico	68,50	10325,60	58	4,9	5,19	0,756
Colombia	67,63	7903,90	62	9,6	4,38	0,720
China	67,47	7590,00	64	4,6	-	0,727
Dominican Republic	62,79	6163,60	81	15,0	2,22	0,715
Thailand	68,78	5977,40	57	0,7	7,57	0,726
Algeria	52,14	5484,10	114	9,8	4,34	0,736
Paraguay	65,68	4712,80	75	5,0	4,80	0,679
Albania	67,20	4564,40	66	16,0	3,27	0,733
Tunisia	58,21	4420,70	98	13,3	6,17	0,721
Mongolia	70,75	4129,40	51	5,0	5,48	0,578
Egypt	61,38	3198,70	84	13,2	3,76	0,690
Bolivia	66,46	3124,10	73	2,6	6,89	0,662
Vietnam	68,48	2052,30	59	2,2	6,29	0,666
Ghana	62,63	1441,60	82	1,8	8,14	0,579
Nepal	56,77	701,70	106	2,7	4,72	0,548

Source: World Economics Forum, 2015. The Human Capital Report. Geneva: World Economics Forum; The World Bank

The countries were divided into 3 groups according to their GDP p.c. level: highly developed, medium and poorly developed or undeveloped countries. Calculating the unemployment rate averages and the percentage of public expenditure averages on education (% of GDP), highly developed countries invest

an average of 6.35% of GDP on education, medium developed countries on average invested 5.17% of GDP on education, while poorly developed or developing countries, on average, invested 4.86% of GDP on education. The difference between middle-income developed and underdeveloped countries is slightly lower than among high-income and middle-income countries.

In addition to the public expenditure on education (% of GDP), the unemployment rate is also, on average, an indicator of development and the competitiveness of a country. For example, a group of highly developed countries has an average unemployment rate of 6.44%, which is an extremely low unemployment rate showing that the economy is expanding and that the majority of the active population has an income, increasing competitiveness. Education serves as a foundation to further educate labor, and therefore, a more educated workforce is better prepared to adapt to new technologies and innovation and ready to compete on a global level, making the country more competitive. In middle-income countries, the average unemployment rate is 15.28%, and it is noticeably higher than in highly developed countries. Poorly developed or developing countries have an average unemployment rate of 12.11%, which is 3.17% less than the rate for middle-income countries, which may be explained by the child labor practices of those countries.

According to Table 2, it can be concluded that the group of most developed countries and the groups of poorly developed and developing countries are spending almost the same percentage of GDP for education, but it is the human capital index that highlights their differences in education quality. The quality of education in Finland, Norway or Denmark is much higher than in Ghana, Thailand, Bolivia and so on.

In Table 2, we can see that the countries are ranked by HDI, and that the top 10 countries with the highest HDI are also countries belonging to the group of countries having the highest human capital index and the highest GDP p.c. These countries have the lowest unemployment rate and ( ) show the highest public expenditure on education (% of GDP).

As the HDI in these countries is high, it shows ( ) the standard of living to be high. The average age of mortality is lower in countries where they ( ) exploit child labor, because it is physically exhausting for children to work so many years. Developing countries have the lowest HDI values and the lowest human capital index. The average human capital index for the group of underdeveloped or developing countries is 59.76, which is ( ) 20.24 less than the average human capital index of the most developed countries, ( ) amounting to 81.03.

### 1.3. The regression analysis

Tables 3 and 4 show the regression analysis. From conducted regression analysis, it is evident that all three variables are in high significant correlations. The Human Capital Index is in positive correlation with HDI ( $r = 0.837$ ,  $p < 0.01$ ), which means that an increase of human capital index also means an increase in HDI.

**Table 3** *Descriptive Statistic*

Descriptive Statistic			
	Mean	Standard Deviation	N
HCI	73.2709	8.35659	44
HDI	.8118	.10854	44
GDP p.c.	31831.4432	29726.34944	44

*Source: made by authors*

Also, HDI is positively correlated with GDP p.c. ( $r = 0.763$ ,  $p < 0.01$ ). The increase of GDP of a country follows in the increase in HDI.

**Table 4** Correlations of HCI, HDI and GDP p.c.

Correlations				
		HCI	HDI	BDP pc
Pearson correlation	HCI	1,000	,837	,706
	HDI	,837	1,000	,763
	GDP p.c.	,706	,763	1,000
Sig. (1-tailed)	HCI	.	,000	,000
	HDI	,000	.	,000
	GDP p.c.	,000	,000	.
N	HCI	44	44	44
	HDI	44	44	44
	GDP p.c.	44	44	44

*Source: made by authors*

Furthermore, there is a significant positive correlation between GDP p.c. and the human capital index ( $r = 0.706$ ,  $p < 0.01$ ). Similar to the previously mentioned relations, the same works here. If the Human Capital Index increases, GDP p.c. will also increase.

## 2. Research synthesis

The larger the public expenditure of a country on education (% of GDP), which is on average the percentage of the population with university or higher level education, with higher education serving as a foundation for further learning opportunities of the laborforce, better preparing it to adapt to new technologies and innovation, the better the country can compete on a global level. Countries with a mostly primary education level are more likely to be restricted to a low level average salary in the country and will have fewer opportunities in the future, i.e., they will be less competitive. Therefore, the quality of education and training of the workforce for those jobs that the labor market is seeking, or will be seeking, increases a country's competitiveness.

Regression analysis showed that all three variables ( ) are in significant correlation, i.e., the human capital index is positively correlated with HDI, which means that the increase of human capital index raises the HDI. It also significantly positively correlates with GDP p.c. and the Human Capital Index.

The average duration of the education should be considered together with the quality of the education which will give a better insight into the effectiveness of education and strengthening of human capital. The analysis of the Human Capital Index, GDP p.c., HDI, average time of education, quality of education and unemployment rates shows how ( ) countries that invest more in education, have a higher quality of life and higher GDP p.c., i.e. they are economically developed. Also, according to the quality of the education system, countries with a longer average duration of education have a better educational system and are better to adapt to labor market requirements and changes.



## REFERENCES

- Aronson, E., Wilson T. D., Akert M. R. and Wilson, T. (2001): *Social Psychology, 4th edition*, Prentice Hall, New York
- Baron, A. and Armstrong, M. (2008): *Human Capital Management: Achieving Added Value through People*, Kogan Page, London
- Bebek, B. (2005): *Integrativno vodstvo – Leadership*, Sinergija, Zagreb
- Human Development Report, <http://hdr.undp.org/en/data>
- Keeley, B. (2009): *Ljudski kapital – od predškolskog odgoja do cjeloživotnog učenja*, Educa, Beograd
- Lepak, P. D. and Snell, A. S. (1999): *The Human Resource Architecture: Toward a Theory of Human Capital Allocation and Development*, *Academy of Management Review*. Vol. 24, No. 1, pp. 31-48.
- OECD, <https://data.oecd.org/>
- Piketty, T. (2014): *Capital in the Twenty-First Century*, Belknap Press, Boston
- Požega, Ž. (2012): *Menadžment ljudskih resursa – upravljanje ljudima i znanjem u poduzeću. Sveučilišni udžbenik*, Ekonomski fakultet u Osijeku, Osijek
- Schultz, T. W. (1971): *Investment in Human Capital – The Role of Education and of Research*, Free Press, New York
- The World Bank, <http://data.worldbank.org/>
- World Economic Forum <http://www.weforum.org/>

**Iva Ribić, bacc.oec.**

Virovitica College  
33 000 Virovitica; Vlahe bukovca 13/1  
Phone:00385/95-901-77-78  
iva.ribic.@gmail.com

**PhD Anita Prelas Kovačević , senior lecture**

Virovitica College  
33000 Virovitica; M.Gupca 78  
Phone: 033/492-276  
anita.prelas.kovacevic@vsmti.hr

**Suzana Šmit, bacc.oec.**

Virovitica College  
34552 Badljevinu ;Joze Odobašića 13  
Phone: 00385/99- 653 -24 -21  
smitsuzana@gmail.com

## **HUMAN RESOURCES DEVELOPMENT IN VIROVITICA COUNTY**

### **RAZVOJ LJUDSKIH POTENCIJALA VIROVITIČKO-PODRAVSKE ŽUPANIJE**

#### **ABSTRACT**

*Socio – economic development in 21 century has become a general imperative for development of regions in Croatia because of a too large disparities in uprising. One of the fundamental conditions for uprising competitive advantage and improvement of economy of particular regions and economy of Croatia in the territory of the European Union are human resources which by their work and efforts create prosperity and sustainable development. Croatian Eastern region represents a great potential for development of economy but she is affected by a high unemployment rate which is a consequence of globalization and economic crisis which strucked Croatian economy in 2008. The roots of problems date back into nineties when Croatia has been hit by war which brought a large stagnation of economy which slowed growth and development. One of the counties of Eastern region is Virovitica county which directs its efforts into uprising and improvement of professional competences young, unemployd and inactive people. By continuous upgrading of development human resources ability of region is recognized by adapting to the market . Aware of the fact that the human capital provides uprising, Virovitica county is encouraging uprising of entrepreneurship and promotes lifelong education but simultaneously pays attention on the balance in private and business life. The point of this paper is indicate on the importance of the development of underdeveloped regions. The key factor of successful development of economy and society in general is highly skilled workforce which directs all odtheir competences to positive progress. Furthermore, by analysis will be determined methodes and results of impacts and measures for self-employed young, unemployd and inactive people which are manifested in increasing nubmer of self-employed people, reduction of unemployment in mentioned groups, in increasing number of programs for employment. Main goal of this artical is to emphasize the importance of self-*

*consciousness individuals on the contribution in the development of the areas in which they live and the entire Croatian economy. Research will be conducted by analyzing the available data.*

**Keywords:** *competitive advantage, human resources, sustainable development, lifelong education, entrepreneurship, Virovitica county*

## SAŽETAK

*Socijalno – ekonomski razvoj u 21. stoljeću ja postao glavni imperativ za razvoj regija unutar Republike Hrvatske zbog prevelikih nejednakosti u samome razvoju. Jedan od temeljnih uvjeta za razvoj konkurentne prednosti i poboljšanja same ekonomije pojedinih regija te same Republike Hrvatske na području Europske unije su ljudski potencijali koji svojim radom i zalaganjem stvaraju prosperitet i održivi razvoj. Istočna regija Republike Hrvatske predstavlja veliki potencijal razvoja gospodarstva, no pogođena je velikom stopom nezaposlenosti koja je posljedica globalizacije i krize koja je pogodila Hrvatsko gospodarstvo 2008. godine. Korijeni problema sežu u 90-te godine prošlog stoljeća kada je Hrvatsku zadesilo ratno razaranje što je dovelo do velike stagnacija gospodarstva koja je usporila rast i razvoj istoga. Jedna od županija Istočne regije je i Virovitičko - podravska županija koja svoje napore usmjerava u razvoj i poboljšanje profesionalnih kompetencija mladih, nezaposlenih i neaktivnih osoba. Kontinuiranim unaprjeđenjem razvoja ljudskih potencijala uviđa se sposobnost regije u prilagodbi okolnostima na tržištu. Svjesni činjenice da ljudski kapital uvelike pridonosi razvoju, Virovitičko – podravska županija potiče razvoj poduzetništva i promiče cjeloživotno obrazovanje, istovremeno obračujući pažnju na ravnotežu između privatnog i poslovnog života. Ovim radom se želi ukazati na važnost razvoja nerazvijenih regija. Ključan faktor uspjeha razvoja gospodarstva i društva u cjelini su visoko kvalificirana radna snaga koja svoje kompetencije usmjerava do pozitivnih pomaka. Nadalje analizom će se utvrditi načini i rezultati utjecaja mjera za samozapošljavanje mladih, nezaposlenih i neaktivnih osoba koji se očituju u povećanju broja samozaposlenih, smanjenju nezaposlenosti navedenih skupina, povećanom broju programa za samozapošljavanje. Cilj ovog rada je ukazati na važnost samoosvješćavanja pojedinaca o doprinosu u razvoju područja u kojemu žive te cjelokupnog gospodarstva Republike Hrvatske. Istraživanje je provedeno analizom dostupnih podataka.*

**Ključne riječi:** *konkurentna prednost, ljudski kapital (potencijal), održivi razvoj (regije), cjeloživotno obrazovanje, poduzetništvo, Virovitičko – podravska županija*

## 1. Introduction

County<sup>1</sup> of Virovitica spreads within continental part of Republic of Croatia. It expands over Central and Eastern Croatia, it joins regions of Slavonia and Podravina and is connected with Hungary through the Drava river<sup>2</sup>.

It is a vital factor in the traffic connection taking into consideration two important traffic corridors: transversal (the primary one being the most appropriate connection within middle Danube and Central Adriatic) and longitudinal (as secondary one which follows the flow of river Drava connecting Republic of Croatia with its eastern and western neighbours).

Transit corridors are ensuring faster flow of goods and services, capital and labour within the County and neighbouring countries. Apart from agriculture and tourism, important part within the County is having an industry - in particular wood and processing industry.

---

<sup>1</sup>Hereinafter: County

<sup>2</sup>To read more about specifics of the County: <http://www.vpz.com.hr/o-zupaniji/prostorne-posebnosti/>

Area of the County spreads over 2.021 km<sup>2</sup>. According to Central Bureau of Statistics from 2011 there lives 84,836 inhabitants of which 14,245 represents total number of young people between the age of 18 and 30. The County has three cities (Orahovica, Slatina and Virovitica) and thirteen municipalities (Crnac, Cacinci, Cadavica, Gradina, Lukac, Mikleus, Nova Bukovica, Pitomaca, Sopje, Suhopolje, Spisic Bukovica, Vocin and Zdenci).

The basis of the County's progress is economy which must be connected with all segments and has to exploit developmental potential especially the human resources. According to the Czech Republic model, which has a similar geographical, historical and economic characteristics to Croatia, it is necessary to take advantage of development opportunities within the European Union, through export and development funds, as well as within the country itself. Namely to encourage economic development of Eastern Croatia which is predominantly agricultural and industrial area. Accordingly to the above, County is channelling its efforts towards the improvement of knowledge and skills of the working population through education. As well as with variety of measures for development and improvement of professional competencies of young people, unemployed, inactive people that are reflected in the increasing number of being self-employed, decreasing the number of above mentioned groups, increased number of employment programs, etc.

## **2. Unemployment in the Virovitica County**

A man is a driver of economic activities which are strengthening the environment and economic development itself. Objectives of starting up of economic activities can be due to a number of reasons. Some of them are gaining profits, survival, increased efficiency, the need for work and learning and many others. Among definitions we can define man as a social and cultural being with a specific feature of having an ability to learn and to develop its personal competencies in order to gain a certain competitive advantage over others (Gutic and Rudelj, 2012).

Evaluating the success of individual knowledge is very specific and delicate due to a particular competencies and skills that are expressed on the field level. The problem of youth unemployment in the eastern region of the Republic of Croatia as well in the County is alarming and is exceeding the red line. Therefore in this work is presented the analysis of measures for self-employment of youth, the unemployed and inactive people as well as results of the measures for development and improvement of professional competencies and a lifelong learning in the County in order to establish competitive advantage of the above mentioned groups.

Unemployment is representing a serious social problem for an affected individual, family and a society as a whole and we can measure it in a several ways. From an economic point of view, unemployment means under utilisation of one part of the available workforce, which fails to reach maximum production and economic prosperity which could be possible to achieve otherwise (Tomasic, 2010). Unemployment can be defined as the total number of adults which do not have a job but would like to have one and that is evidenced by their active job search. The unemployed people are part of the country's workforce thus representing the working age population which is in between of 15 to 60 years old (or from 15 to 65 years old or in the other time period which is defined by the Employment Law) (Borožan, 2006).

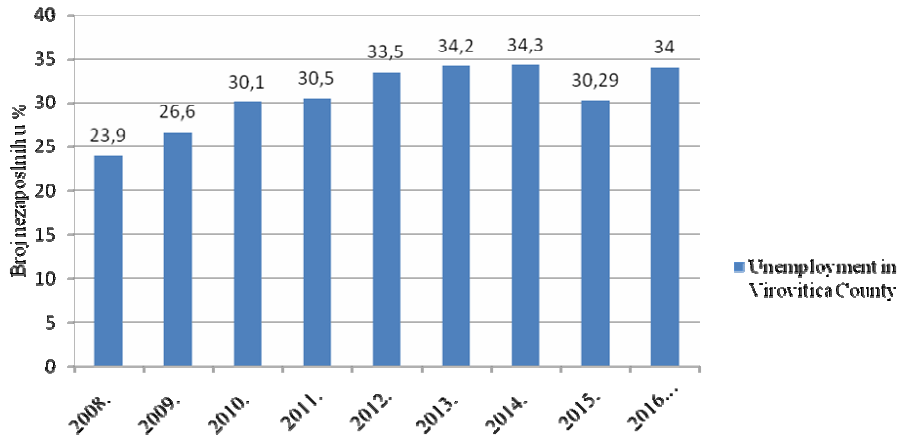
The workforce is constantly being in the state of fluctuation. After graduation young people are searching for a job. Retirees are leaving jobs. People are temporary absent being on a maternity or on a sick leave. Accordingly, workforce do not include all people who are available for work but only the one that are currently available (the active one) (Tomasic, 2010).

Furthermore, the County as well as rest of the Republic of Croatia has been hit by the economic crisis in 2008 which has affected the entire economy. The County is a part of Eastern region of Republic of Croatia which has been affected by the large scale of destruction during a Homeland war. Despite the fact that Eastern region of the Republic of Croatia was famous for its processing and agricultural activities development of the region was largely stagnating after the war due to a number of reasons: destruction of facilities, emigration of young people as well due to a great impact of privatization of the agricultural cooperatives and factories that were located in this area. Unfortunately impoverished condition in the County is visible through GDP figures that are supported by unemployment values during mentioned years. As per data from the National Bureau of Statistics in 2008 GDP per capita was 51,459 kn and the unemployment rate was 23,9%. Over the years, under the influence of the economic crisis GDP per capita was decreasing while unemployment was increasing. In 2009 GDP per capita amounted to 46.909 kn while unemployment rate increased to 26,6%. In 2010 unemployment rate was 30,1% while GDP per capita was 44,412 kn.

The last available data about GDP per capita is from 2011 when it was 47,080 kn while unemployment rate was still increasing and reached 30,5%. Unemployment rates in the County was 33,5% in 2012, 34,2% in 2013 and 34,3% in 2014. From the above data we can conclude that average unemployment rate was increasing at the rate of 2% per year which is a lot in a comparison with the initial analyzed year of 2008 and are very worrying. Also these indicators are pointing towards a very bad image of the County and possibility of soon recovery would be hard to reach. Only with great effort and dedication would be possible to achieve satisfactory climate that boosts growth and development of the County as well as the entire Eastern region which are filled with human manufacturing and service resources.

Department of Employment – Regional Office in Virovitica has 10,458 registered unemployed people in the late February 2015 which is 3,9% or 389 more people in comparison to January 2015. Unemployment decreased by 11,9% or by 1,415 unemployed people in total compared to the same month of 2014. The highest unemployment rate of 26,7% was recorded in the age group between 20 and 29 years. The lowest unemployment rate was recorded with the people that have completed graduate studies / faculty, academy which is in total of 2,1% or 220 people and with an undergraduatelstudies/high school which is in total 3,1% or 329 people. The largest part of the unemployment rate of 35,4% or 3,698 are representing people that have completed secondary school up to 3 years as well as people that have only completed primary school(Croatian Employment Service).

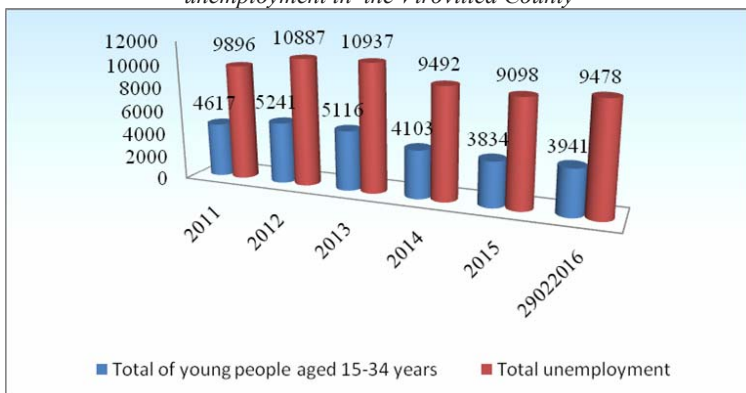
**Graph 1** Unemployment in the Virovitica County



Source: authors adapted according to the monthly statistical bulletin for a period of 2011.do 2016 , the Croatian Employment Service ( CES ) , ISSN 1849-3378 , available at : [www.hzz.hr](http://www.hzz.hr)

Graphic shows unemployment trends in the Virovitica County in the past seven years , until 29.02.2016. Acordin from latest data in 2016, and the movement of the curve and the state of the economy can be concluded that the upward trend in unemployment continues . Also , it should be noted that almost half of the unemployed in the period from 2011 until 29.02.2016 . year are young people aged between 15 and 34 years ( graph 2 ) .

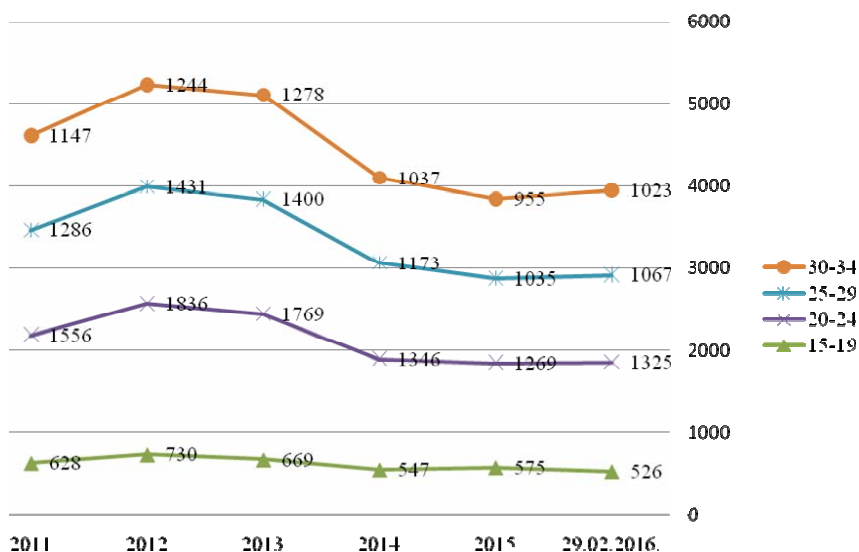
**Graph 2** The number of unemployed young people aged between 15 and 34 years of total unemployment in the Virovitica County



Source: Made by the authors according to the monthly statistical bulletin for a period of 2011.do 2016 , the Croatian Employment Service ( CES ) , ISSN 1849-3378 , available at : [www.hzz.hr](http://www.hzz.hr)

But if you look at the chart 3 shows that the most represented group among youth are young people aged between 20 and 34 years old .

**Graph 3** Trends in the number of unemployed young people in the Virovitica County



Source : Made by the authors according to the monthly statistical bulletin for a period of 2011.do 2016 , the Croatian Employment Service ( CES ) , ISSN 1849-3378 , available at : [www.hzz.hr](http://www.hzz.hr)

### 3. Measures to encourage self-employment of young , inactive and unemployed people

Self-employment is an important factor in the development of the business segment 's of life. It is an essential factor in economic development in terms of personal self-realization and finding opportunities for personal business development , and development of environment . herefore, by the Croatian Employment Service implemented measures for self-employment as an incentive for self-employment of young people , the unemployed and inactive persons . Aid for self-employment are governed in accordance with the programs of the European Union for promoting youth employment , including<sup>3</sup>:

1. Your initiative - your workplace " - measures to encourage self-employment , which started to be implemented in 2010 . It is believed that this action has to implement to stop or reduce the brain drain of young, professional people . The aim of these measures is to provide technical and financial assistance in the realization of entrepreneurial ideas of unemployed persons with a view to launching and registering their own business entity . The duration of these measures is 12 months , and the amount of the subsidy amounts to 25,000.00 . Beneficiaries of this measure are unemployed persons who have developed an idea and do not have the capital to start implementing their bussines. Your initiative - your seasonal work place " is support for self-employment in seasonal crafts to provide technical and financial support to women who are interested in starting their own seasonal crafts . The target group is subject to these measures are unemployed women

<sup>3</sup>Data of measures for self-employment downloaded from : ( <http://www.hzz.hr/default.aspx?id=11746> )

regardless of qualifications and work experience . The duration of these measures is 24 months , and the amount of the subsidy amounts to 25,000.00 .

2. " Your initiative - your workplace in green economy " is a measure for encouraging self-employment for young unemployed people under 29 years of age who are on the unemployment register in order to provide technical and financial support in the realization of entrepreneurial ideas in the field of green economy . The duration of action is 12 months , and the amount of the subsidy amounts to 27 000 , of which 25 000 the amount that covers the business, while the amount of HRK 2,000 grant is for education , counseling , consultancy services, etc.

According to information obtained from the CES Regional Office Virovitica of these measures to encourage self-employment of young , inactive and unemployed persons in the area of Virovitica-used only measures "Your initiative - your workplace " , where in 2011 there were 52 users who have accounted for only 1.17 % of young people out of a total of young people this year . 2012 , there were 40 users or 0.76 % of total number of registered young unemployed until 2013, said measures had 138 users ( or 2.70 % of total number of registered unemployed youth ) . 2014 program was attended by 74 users or 1.80% of total number of registered unemployed young people , and in 2015 41 users , or only 1.7 % of the total number of registered unemployed young people .

#### **4. Conclusion**

Human resources are the foundation of every single economy, so it is important to invest in their development through various activities. It is also important to be proactiv in own development, but also in development of enviroment in which we resides. In accordance with, the awareness of people about their enviroment in wich they reside is an important factor for development of the economy of each individual state , but also a region in which they are located. One of the solutions of economic development by individuals is self-employment which can greatly contribute to raising standards, reducing unemployment and developing human resources. Self-employment in the Republic of Croatia , as indicated earlier in this paper , is aided by government policy and policy of the European Union through the program support which are implemented by the Croatian Employment Service , including : Your initiative - your workplace " , " Your initiative - your seasonal work place " and " Your initiative - your workplace in green economy ". In Virovitica County is conducted so far only program "Your initiative - your workplace " it is appropriate to examine the causes of this problem. Possible causes can be the lack of interest of the target groups to participate in the program , insufficient information , and motivation of potential participants in the program , or something else . For a balanced development of the Croatian , which includes non -developed regions , including the Eastern Croatian regions it is necessary to raise the self-confidence of young unemployed, and employed persons on the strength of human resources to foster growth and development , with the stated there are needed certain corrective measures within the policy , administration , law , judiciary and other state institutions in order to stimulate entrepreneurship and favorable business climate.

#### **REFERENCES**

- Borozan, Đ. (2006): Makroekonomija, Osijek: Sveučilište J.J. Strossmayera u Osijeku, Ekonomski fakultet u Osijeku
- Gutić, D., Rudelj, S. (2012): Menadžment ljudskih resursa, Osijek: Grafika d.o.o. Osijek



Tomašić, P. (2010): *Nezaposlenost u tranzicijskoj Hrvatskoj pod socijalno – etičkim vidom*, Zagreb: Kršćanska sadašnjost d.o.o., Zagreb

Državni zavod za statistiku: *Kontingenti stanovništva po gradovima/općinama, popis 2011*; dostupno na: [http://www.dzs.hr/Hrv/censuses/census2011/results/htm/H01\\_01\\_03/h01\\_01\\_03\\_zup10.html](http://www.dzs.hr/Hrv/censuses/census2011/results/htm/H01_01_03/h01_01_03_zup10.html) (11.11.2015.)

Hrvatski zavod za zapošljavanje: „*Tvoja inicijativa – tvoje radno mjesto*“ – potpora za samozapošljavanje, <http://www.hzz.hr/default.aspx?id=11746> (11.11.2015)

Hrvatski zavod za zapošljavanje područni ured Virovitica: *Mjesečni statistički bilten*, Br 2, ISSN-1331-4610, dostupno na: [http://www.hzz.hr/UserDocsImages/E-bilten\\_PU\\_Virovitica\\_02\\_2015.pdf](http://www.hzz.hr/UserDocsImages/E-bilten_PU_Virovitica_02_2015.pdf) (13.10.2015)

Virovitičko podravska županije: *Strateški dokumenti*, dostupno na: <http://www.vpz.com.hr/dokumenti/strateski-razvojni-dokumenti/> (13.10.2015)

Hrvatski zavod za zapošljavanje: *Mjesečni statistički bilten 3*, GODINA XXIX. / 2016., ISSN 1849 – 3378, dostupno na: [http://www.hzz.hr/UserDocsImages/stat\\_bilten\\_03\\_2016.pdf](http://www.hzz.hr/UserDocsImages/stat_bilten_03_2016.pdf)

Hrvatski zavod za zapošljavanje: *Mjesečni statistički bilten 12*, GODINA XXVIII. / 2015, ISSN 1849 – 3378, dostupno na: [http://www.hzz.hr/UserDocsImages/stat\\_bilten\\_12\\_2015.pdf](http://www.hzz.hr/UserDocsImages/stat_bilten_12_2015.pdf)

Hrvatski zavod za zapošljavanje: *Mjesečni statistički bilten 12*, GODINA XXVII. / 2014., ISSN 1849 – 3378; dostupno na: [http://www.hzz.hr/UserDocsImages/stat\\_bilten\\_12\\_2014.pdf](http://www.hzz.hr/UserDocsImages/stat_bilten_12_2014.pdf)

Hrvatski zavod za zapošljavanje: *Mjesečni statistički bilten 12*, GODINA XXVI. / 2013., ISSN 1849 – 3378, dostupno na: [http://www.hzz.hr/UserDocsImages/stat\\_bilten\\_12\\_2013.pdf](http://www.hzz.hr/UserDocsImages/stat_bilten_12_2013.pdf)

Hrvatski zavod za zapošljavanje: *Mjesečni statistički bilten 12*, GODINA XXV. / 2012.,ISSN 1849 – 3378, dostupno na: [http://www.hzz.hr/UserDocsImages/stat\\_bilten\\_12\\_2012.pdf](http://www.hzz.hr/UserDocsImages/stat_bilten_12_2012.pdf)

Hrvatski zavod za zapošljavanje: *Mjesečni statistički bilten 12*, GODINA XXIV. / 2011., ISSN 1849 – 3378, dostupno na: [http://www.hzz.hr/UserDocsImages/stat\\_bilten\\_12\\_2011.pdf](http://www.hzz.hr/UserDocsImages/stat_bilten_12_2011.pdf)

**Ljerka Sedlan Kőnig, PhD**

Josip Juraj Strossmayer University in Osijek, Croatia  
Faculty of Economics in Osijek  
Gajev trg 7, Osijek  
Phone: +385 31 22 44 94  
e-mail: sedlan@efos.hr

**Tihana Koprivnjak, MA**

Josip Juraj Strossmayer University in Osijek, Croatia  
Faculty of Economics in Osijek  
Gajev trg 7, Osijek  
Phone: +385 31 22 44 94  
e-mail: tihana@efos.hr

**Petra Mezulić Juric, MA**

Josip Juraj Strossmayer University in Osijek, Croatia  
Faculty of Economics in Osijek  
Gajev trg 7, Osijek  
Phone: +385 31 22 44 94  
e-mail: pmezulic@efos.hr

**EMPLOYERS' VIEWS ON STUDENTS' EMPLOYABILITY IN EASTERN CROATIA****POGLED POSLODAVACA NA ZAPOŠLJIVOST STUDENATA U ISTOČNOJ HRVATSKOJ****ABSTRACT**

*Given the economic context and the situation of great competition for graduate jobs in Croatia, students are particularly interested in securing a degree that will enhance their employment prospects. The tensions between employers and academia remain because of faculty staff's concerns that engaging with the employability agenda will lead to a diminution of academic standards and objectives (Gunn et.al. 2010). It is vital that universities produce graduates that economy needs, with the skills that employers value. Therefore, HE should take into account the employment needs of their students, including the generic skills and abilities needed in the workplace and reflect this in the strategy, curriculum and course design. With the objective to investigate the employers' views on what skills and attitudes are important for employment, in April 2015 a total of 134 questionnaires from employers from Croatia were collected. In these surveys employers value problem solving skills, learning skills, willingness to learn, as well as enthusiasm and intelligence as the most important for employability. The findings indicate that skills and attitudes which employers expect graduates to bring to the workplace, such as intelligence, enthusiasm and motivation, application of knowledge, problem solving and learning skills are weakly developed during HE. This study highlights the growing need that HEIs put more emphasis upon promoting employability of students through skills development based upon employers' priorities, upon structured approach to work placements, internships and work based learning opportunities, as well as meaningful partnerships with the employers. Strategic planning, as well as monitoring the effects of teaching at HEI in increasing the employability of students, is critical.*

**Key words:** *employability, graduates, employers, skills and attitudes, HEI*

## SAŽETAK

*Uzimajući u obzir gospodarski kontekst u Hrvatskoj te postojanje velike konkurencije pri zapošljavanju, ne čudi što su studenti posebno zainteresirani za posjedovanje diplome koja će povećati njihovu zapošljivost. Zbog straha da će veći angažman oko pitanja zapošljivosti studenata dovesti do smanjenja akademskih standarda i ciljeva (Gunn et.al. 2010), još uvijek postoji neslaganje između poslodavaca i akademske zajednice. Ključno je da studenti nakon završetka visokog obrazovanja imaju znanja kakva gospodarstvo treba te vještine koje poslodavci cijene. Sveučilišta stoga trebaju uzeti u obzir generičke vještine i sposobnosti koje njihovi studenti trebaju da bi si osigurali veću zapošljivost te ih ugraditi u svoje strategije, programe i kolegije. S ciljem da se istraži mišljenje poslodavaca o vještinama i stavovima koji su važni za zapošljivost, u travnju 2015. prikupljeno je 206 upitnika od 72 nastavnika sa Sveučilišta Josipa Jurja Strossmayera u Osijeku i 134 poslodavca iz Hrvatske. U istraživanju je uočeno da poslodavci najviše cijene sposobnost rješavanja problema, vještine učenja, spremnost na daljnje učenje, kao i entuzijizam i opću inteligenciju. Rezultati istraživanja pokazuju da se vještine koje poslodavci očekuju od diplomanata prilikom zapošljavanja, kao što su inteligencija, entuzijizam, motivacija, primjena znanja, sposobnost rješavanja problema i vještine učenja, slabo razvijaju tijekom visokog obrazovanja. Također, istraživanje je istaknulo rastuću potrebu stavljanja većeg naglaska na: zapošljivost studenata kroz razvoj vještina, strukturirani pristup zapošljavanju, studentske prakse i učenje kroz rad, kao i na efektivno partnerstvo s poslodavcima. Pritom je strateško planiranje i praćenje efekata podučavanja na visoko obrazovnim institucijama u povećanju zapošljivosti studenata od iznimne važnosti.*

**Ključne riječi:** *zapošljivost, studenti, poslodavci, vještine i stavovi, visoko obrazovne institucije*

### 1. Introduction

One of the most often discussed topics concerning today's labor market, in which requirements and priorities are constantly changing, are employability skills. The shift from an industrial economy to an information society has placed an emphasis on integrity, communication and flexibility. Technical expertise, which used to be sufficient for employment, is not enough to keep people employed nowadays. According to an extensive employers' survey carried out in the UK, more than 70% of employers anticipate that employees will soon need to acquire new skills, due to rapid changes in the economy (Winterbotham et al., 2014).

With the ever-present challenge of global economic competition, the connection between higher education and employability is becoming more and more important, and is often a subject of discussion in the academic community. Due to rising unemployment among young graduates, universities are under more intense pressure from employers, government and other stakeholders to educate graduates with more than just skills in specific areas of specialization (Mason et al., 2006). It is widely agreed that the role of HE is to support students and graduates in developing the necessary qualities, behaviors, skills and knowledge for the contemporary workplace. Furthermore, contemporary HEI need to work together with the industry to ensure that the subject knowledge and skills that are acquired by students during HE and those needed in the workplace are complementary.

Eurostat data for March 2016 show that unemployment rate, seasonally adjusted, for EU28 was 8,8%, while, for the same period, the unemployment rate in Croatia was 14,9% and it puts Croatia among countries with the highest observed unemployment rates (alongside Greece and Spain). Youth unemployment rates are usually much higher than overall unemployment rates. According to Eurostat data, in March 2016, the lowest youth unemployment rates were observed in Germany

(6.9 %), and the highest in Greece (51.9 % in January 2016). In the first quarter 2016 in Croatia the youth unemployment rate was 39.0%.

Although a considerable amount of literature addresses employability skills, much of the information is theoretical in nature, and offers policy recommendations and prescriptive advice which has not been tested in an entrepreneurially young country such as Croatia. This paper provides understanding of the employers' perception of graduates' employability skills and the role of higher education in promoting employability skills, focusing on graduates in Eastern Croatia.

The main objective of this paper is to determine what skills, knowledge and characteristics the employers in Croatia expect from their new employees, so that educators at HEI can promote these skills in their curriculum, and thus improve the employability of graduates. The research objective was also to measure to what degree HE contributes to the development of these skills and attributes, as well as to ascertain whether perceptions vary by location and size of enterprise.

In the first part, the authors review key literature on employability and propose the research question. Next, research method is presented, including sample description and research instrument, which was designed through modification of the existing research. Research results and the discussion from both theoretical and practical standpoint follow. Finally, recommendations for increasing employability of graduates are made.

## **2. Literature review**

The topic of employability has been very popular by researchers in many countries, and it has often been commented that current educational systems are ineffective in equipping graduates with relevant employability skills. Graduates in the 21<sup>st</sup> century are required to be adaptive and flexible, show they can easily learn and unlearn, and are able to make changes required by the environment. To succeed, new graduates need to manage rapid change, uncertainty and complexity in the environment, therefore employability skills, apart from subject specific knowledge and technical skills, should include transferable and entrepreneurial skills.

### **2.1. Concept of employability**

Yorke and Knight (2006) define the concept of employability as a set of achievements, skills, understandings and personal attributes that make graduates more likely to gain employment, do well and secure occupations, which benefit themselves, the workforce, the community and the economy. Employability skills are distributed horizontally across all industries and vertically across all jobs (Robinson, 2000).

### **2.2. Employability skills**

Much research has been done on the importance of employability skills in the workplace. Research reports that employability is enhanced by students who demonstrate entrepreneurial qualities, innovative approach, creativity, collaboration and risk taking. Klaus (2010) found that 75% of long term job success depends on people skills, while only 25% is determined by technical expertise. Another study indicated that hard skills, which include job skills and refer to specific, teachable abilities that may be required in a given context, contribute to only 15% of one's success, whereas remaining 85% is due to soft skills (Watts and Watts, 2008, as cited in John, 2009). While Mason et al. (2003) assert that the concept of employability includes development of communication, numeracy, information technology and learning how to learn, more recent studies propose a number of inter-related competences. Little (2010) indicates that employers want graduates who can adapt to the workplace culture and use their abilities and skills to evolve the organization. According to Harvey et al. (2002) most employers are looking for graduates who are proactive, can use higher level skills including critical thinking and multi layered communication to facilitate innovative teamwork. Rothwell and Arnold (2007) proposed that employability, apart from students' academic

performance, ambition and confidence in skills and abilities, also includes student's awareness of opportunities in the labor market, as well a labor market's demand for people in the particular field. Confederation of British Industry (cited in Lowden et al., 2011) place an emphasis on graduates possessing a positive attitude as a key factor underpinning their employability and Archer and Davison (2008) illustrate that HEIs need to equip graduates with applied practical skills which make them more "work-ready".

In conclusion, while there are variations in definitions of employability, there is a general agreement on what skills, characteristics and attributes constitute employability: employers expect graduates to have technical and discipline competences, but also require graduates to demonstrate a wide range of valuable skills and attributes.

### **2.3. Employers perceptions of employability and skills of recent graduates**

A range of empirical evidence exists indicating that employers are more inclined to hiring graduates that possess both non-generic and technical skills. In the EC Eurobarometer report from 2010, covering 31 European countries on employers' perception of graduate employability, recruiters highlighted the importance of team working, sector-specific skills, communication skills, computer literacy, being able to adapt to new situations, first class ability in reading and writing and analytical and problem solving skills. Graduate employers were less likely to highlight the importance of foreign language skills. A large majority of employers in that survey were at least rather satisfied with the level of skills and capabilities of their recent hires. The skills that employers in Catalunya Employers Survey (2014) considered to be the most important were responsibility at work, ability to acquire new knowledge and team working. The least important were negotiation skills and leadership. Previous studies point out that employers consider young graduates to have a good academic education and theoretical skills, but that they clearly lack practical skills and work experience. Graduates are also often unwilling to make sacrifices or be flexible and adapt reluctantly to the needs and requirements of the organization (Moreno, 2013, cited in AQU Catalunya Employers Survey, 2014).

In Croatia, a popular job search websites MojPosao.net in collaboration with EduCentar did a survey on 300 employees, 50 employers and 35 educational institutions and revealed that the majority of employers (63%) believe that their employees need good communication and public speaking skills. Employees, on the other hand, are not particularly interested in developing these skills. Only 40% stated that this is of interest to them. As additional informal education presents a critical factor in hiring candidates for as much as 71% of employers, the survey concludes that formal education is not enough to secure employment.

### **2.4. Higher education efforts in addressing employers' needs**

Cranmer (2006) and others maintain that employability issues should be at the very core of contemporary HE. Recently, in some EU countries there has been a shift concerning taking employability seriously (Harvey et al., 2002). Although more pressure is put on HEIs in Croatia to play a more active role in addressing employability of graduates, key stakeholders in HE do not appear to recognize this priority. On several occasions, both formally and informally, employers have stated that it is vital that HEI produce graduates that the economy needs, with the skills that employers value. With the increased policy efforts to embed employability into HE practice, it can be expected that HEIs introduce more systematic learning and teaching methods, course content to address employability in the curricula.

One of the major problems facing employability agenda in Croatia is the discrepancy between what academia and employers view the role of HE is. This opinion is not exclusive to Croatia. Researchers in other countries (Lees, 2002) highlight the fundamental differences in understanding of employability between employers and educators, which slows down the process of promoting graduate employability at HEI. It has been established (Gunn et.al. 2010) that the tensions between

employers and academia remain primarily because of faculty staff's concerns that engaging with the employability agenda will lead to a diminution of academic standards and objectives.

Knight and Yorke (2006) suggest that in addition to subject knowledge, course content should address specific and generic skills, self-efficacy and critical and reflective thinking. Some concerns have been raised with regard to how the development of such skills can be embedded into university practice, considering other priorities. It is concluded that employability can be developed through the integration of employability skills courses into mainstream curriculum, as well as through appropriate methods of learning, teaching, assessment, and work placements.

In order to evaluate to what degree the above findings are true for the Croatian context, two research questions have been considered:

1. What skills, knowledge and attributes do employers in Croatia expect graduates to demonstrate apart from academic performance?
2. What can HEI do to promote these skills, knowledge and attributes?

### **3. Method**

The main objective of the empirical research was to determine what skills, knowledge and characteristics the employers in Croatia expect from their new employees, so that educators at HEI can promote these skills in their curriculum, and thus improve the employability of graduates. The research objective was also to measure to what degree HE contributes to the development of these skills and attributes, as well as to ascertain whether perceptions vary by location and size of enterprise.

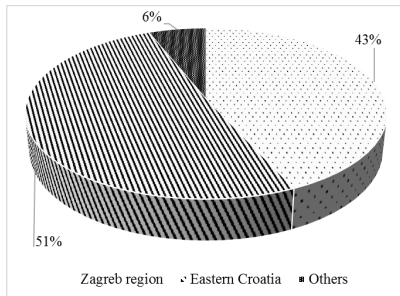
Two surveys conducted previously in Europe were used as reference for the design of this survey: the European Commission's Eurobarometer 2010 titled "Employers' perception of graduate employability" and the UK Commission's Employer Skills Survey 2013: UK results (Winterbotham et al., 2014).

The questionnaire employed open and closed questions, as well as seven-point Likert scales as answers. Questionnaire was piloted prior to distribution, and the survey instrument was validated by an independent panel to ensure that all the questions were understandable to the respondents. The sample includes 134 surveys collected from Croatian employers. The survey was conducted online. Total of 1,647 questionnaires was sent to employers, with a response rate of 8.14%.

Although the sample is not representative of all enterprises employing graduates in Croatia, it does cover a wide range of branches of economic activity and different sizes (by number of employees) of enterprises. It, therefore, provides useful information that can be used for taking action to improve graduate employability in Croatia.

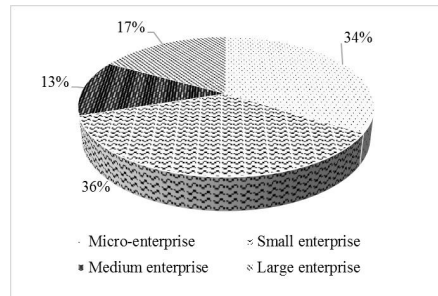
Graph 1 shows the distribution of enterprises according to location. In the sample, 51% of enterprises are from Eastern Croatia, which is of interest because of this paper's focus on Eastern Croatia. Another 43% are from the Zagreb region, where the economic activity is the most intense in Croatia and where graduates are most likely to be employed. According to size, the sample includes micro (34%), small (36%), medium (13%) and large (17%) enterprises (see Graph 2).

**Graph 1** Distribution of enterprises according to location



Source: Authors

**Graph 2** Distribution of enterprises according to size

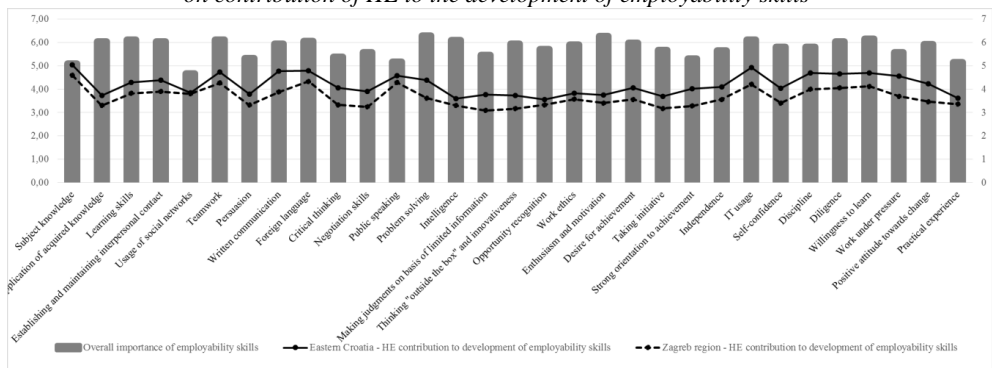


Source: Authors

#### 4. Results and discussion

Given that the majority of sampled companies were from two differently developed parts of Croatia, Eastern Croatia and Zagreb region, differences in opinions of employers in those two regions were compared. Although no significant differences between these two regions in rating the importance of employability skills were observed, there was a difference in rating HE contribution to development of employability skills. In general, employers from Eastern Croatia seem to be more satisfied with the degree to which HE contributes to development of employability skills, than employers from Zagreb region (see Graph 3.).

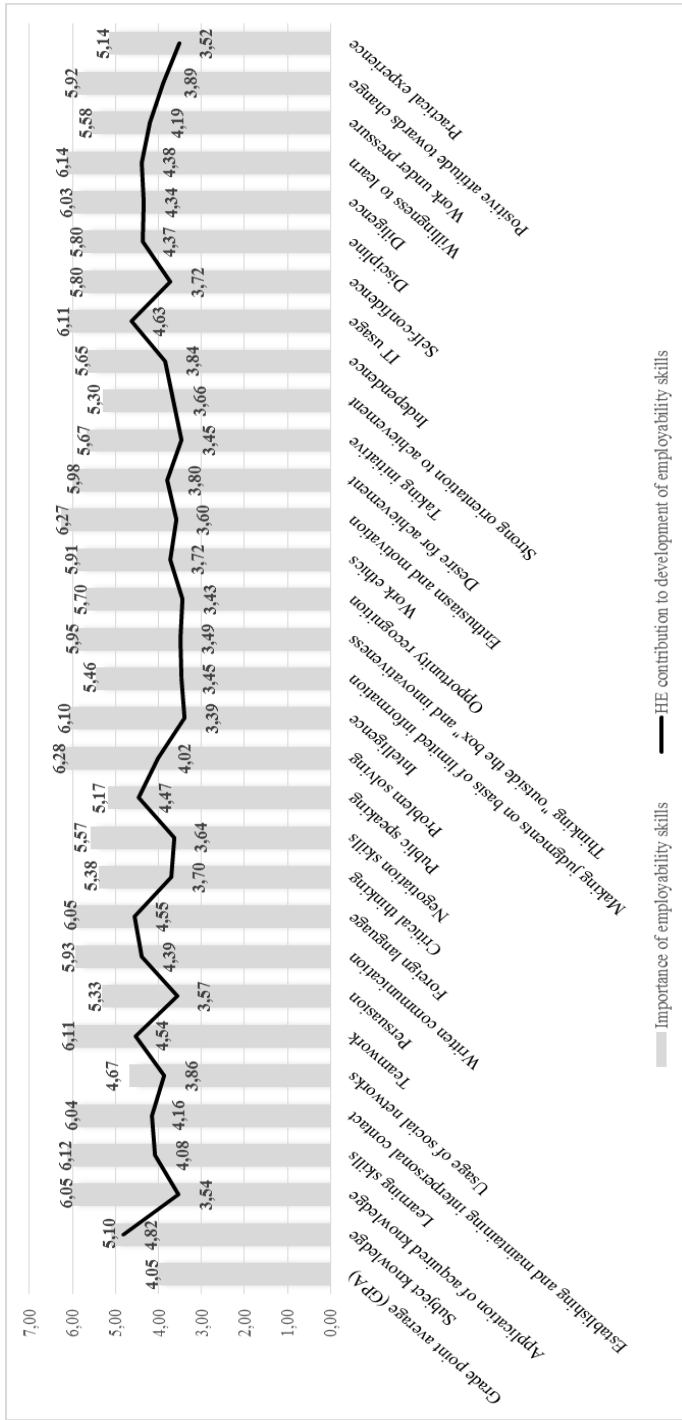
**Graph 3** Comparison between Eastern Croatia and Zagreb Region concerning employers' opinion on contribution of HE to the development of employability skills



Source: Authors

As it can be seen in Graph 4, employers in the survey believed that all listed skills are important for graduate employability, but the skills that employers considered the most important for graduate employability were problem solving skills (6.28 out of 7), enthusiasm and motivation (6.27), willingness to learn (6.14) and learning skills (6.12). The least important, from the employers' point of view, were grade point average GPA (4.05), usage of social networks (4.67) and subject knowledge (5.1).

**Graph 4** Employers' views concerning the importance of employability skills and the contribution of HE to the development of employability skills



Source: Authors



Significantly, employers gave higher importance to willingness to learn and learning skills than to student's grade point average, which is in keeping with Winterbotham et al. (2014). This is in line with the previous findings that subject specific knowledge and technical skills are not enough to keep people employed. In conclusion, this research has shown that employers in this sample appreciate transferable skills and certain personal attributes highly, and give less importance to subject knowledge.

Considerable differences have been observed concerning the importance of employability skills and the contribution of HE to development of these skills. This corresponds with the findings in previous literature (Davies, 2000; Lindsay, 2002). In general, means for importance of employability skills were significantly higher than the means for HE contribution to their development. Also, in general, employers rated the contribution of HE to development of employability skills rather low. This finding is worrying because at the same time, the role of HE in increasing students employability was rated highly (values 6 and 7) by 64% of the employers. Employers in the survey thought that HE contributes most to acquisition of subject knowledge (4.82) IT usage (4.63) and team work (4.54). On the other hand, employers voiced their concern that HE contributes little to entrepreneurial skills such as thinking "outside the box" and innovativeness (3.49), making judgments on basis of limited information (3.45), taking initiative (3.45), opportunity recognition (3.43) and the least to increasing intelligence (3.39). These results are particularly disturbing because literature (Audibert and Jones, 2002) asserts that entrepreneurial attributes have become critical for hiring and promoting employees, and entrepreneurial, innovative, creative and adaptable employees are widely considered valuable for any organization. Moreover, entrepreneurship is recognized as one of the key competences for life-long learning (EU Parliament, 2006).

Interesting, although not surprising, is that the HE contribution to application of knowledge and practical experience was also rated rather low (3.54 and 3.52 respectively). Besides, 93% of employers consider that there is not enough attention given to the application of acquired knowledge during higher education. Additionally, 92% of employers thought that graduates lack soft skills, such as active listening, viewing different perspectives, flexibility, planning etc. This is in line with previous research (Rosenberg et al., 2012) which demonstrated that soft skills are the most deficient skills received in HE. Furthermore, 98% of employers stated that they would rather employ graduates with lower GPA, than those with a high GPA, if they have good communication skills, show a need for achievement, general intelligence, discipline and ethics.

In addition, a comparison between the mean values for employers' views concerning the importance of employability skills and the contribution of HEI to the development of employability skills was made. As it can be seen in Graph 5, the widest gaps between importance of certain skill and HE contribution to those skills were found in the following variables: intelligence, enthusiasm and motivation, application of acquired knowledge, thinking outside the box and innovativeness, opportunity recognition and problem solving. The gap was the smallest for subject knowledge, regardless of the enterprise size.

This is not surprising as in the media and elsewhere employers repeatedly voice their concern about the quality of graduates that exit HE. In their courses, teachers should, therefore, focus not only on the acquisition of subject knowledge, but to the application of acquired knowledge and put efforts into developing students' intelligence and innovativeness, into raising enthusiasm and motivation and helping students demonstrate thinking outside the box, opportunity recognition and problem solving skills.

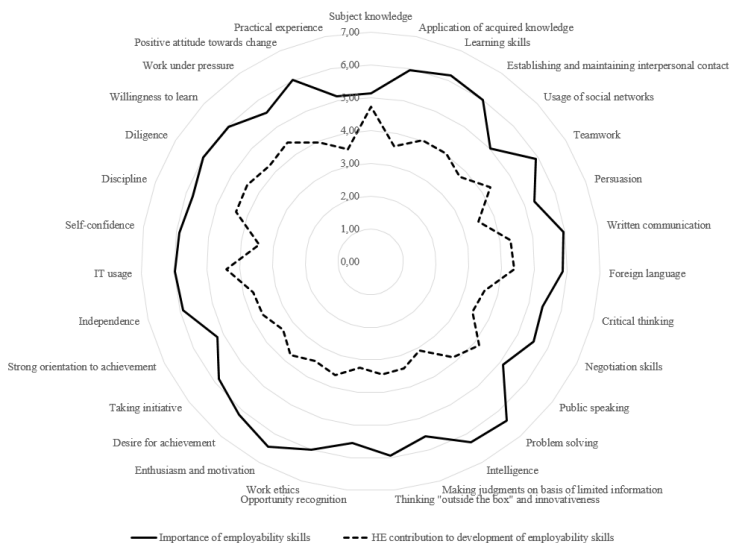
This is not surprising as in the media and elsewhere employers repeatedly voice their concern about the quality of graduates that exit HE. In their courses, teachers should, therefore, focus not only on the acquisition of subject knowledge, but to the application of acquired knowledge and put efforts into developing students' intelligence and innovativeness, into raising enthusiasm and motivation and helping students demonstrate thinking outside the box, opportunity recognition and problem solving skills.

In conclusion, the results indicate that employers in Croatia are looking for well-developed young people with a number of attributes as their future employees. As employers' opinion makes the difference, both teachers and students have to be aware of what employers expect, and work hard to meet these requirements.

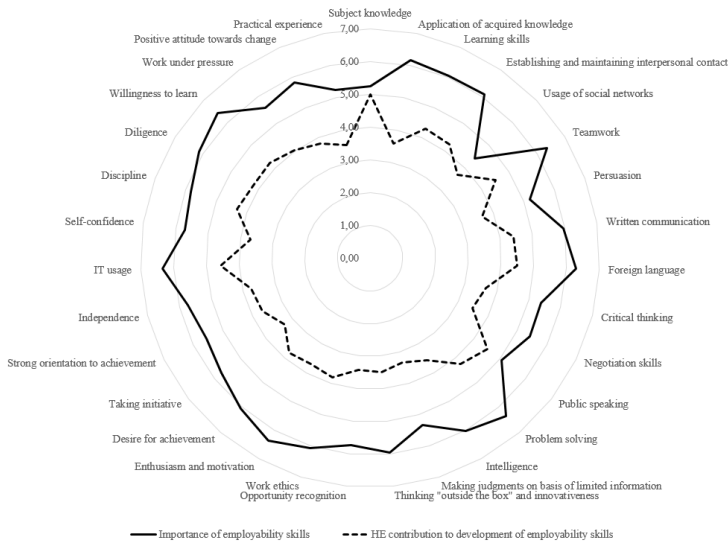
Next, the impact of enterprise size on responses by employers will be discussed. In general, a wide gap between skills importance and HE contribution to development of these skills has been detected. This signals that HE does not educate graduates according to the employers' needs, i.e. during their education graduates do not develop the skills that employers expect them to bring to the workplace. Although there is certain agreement in opinion among respondents in the survey, the study revealed differences in perspectives depending on enterprise size. The results in Graph 5 show that both micro and small enterprises consider enthusiasm and motivation, and problem solving as the most important skills for employment. But micro enterprises also value intelligence, learning skills and need for achievement as beneficial. It can also be seen that small enterprises appreciate willingness to learn, teamwork and IT usage.

Regardless of the enterprise size, the smallest distinction between the importance of employability skills and HE contribution to development of skills was observed in acquisition of subject knowledge. Apart from that other points were interesting. For example, employers from micro and small enterprises expect graduates to demonstrate problem solving skills, enthusiasm and motivation, intelligence, willingness to learn and desire for achievement, but HEIs support in these is not strong enough.

**Graph 5** Micro and small enterprise ratings for importance of employability skills and HE contribution to their development



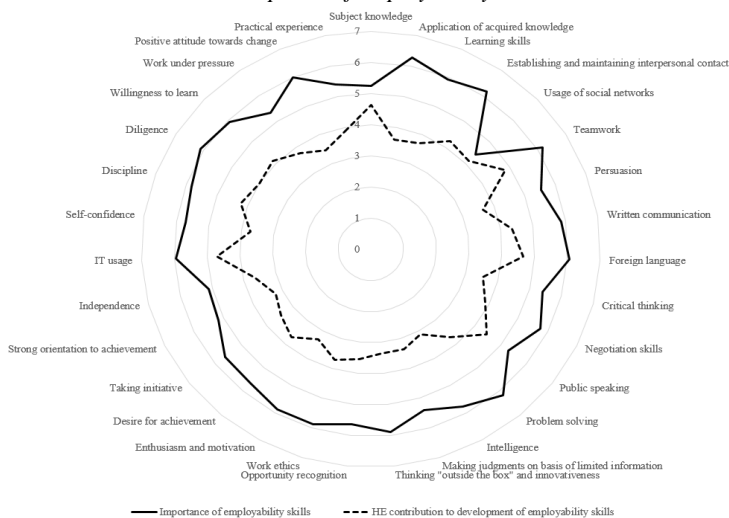
Source: Authors



Source: Authors

Similarly, medium and large enterprises include teamwork and problem solving among valuable employability skills, and medium enterprises add application of acquired knowledge and diligence as important for employment (see Graph 6). Large enterprises, on the other hand, show the highest appreciation for intelligence, learning and problem solving skills, thinking outside of the box and innovativeness, as well as IT usage. Employers from medium and large enterprises consider application of acquired knowledge, problem solving and learning skills, thinking "outside the box" and innovativeness and intelligence, but are, in particular, unsatisfied with how much students develop these during HE.

**Graph 6** Medium and large enterprises perspective of importance and HE contribution to development of employability skills



Source: Authors



Source: Authors

Based on Graphs 5 and 6 it can be concluded that for the most part, large enterprises are less critical concerning the contribution of HE than micro and small enterprises. It also seems that micro and small enterprises identified more accurately what skills they expect from graduates. In conclusion, for all four enterprise sizes the smallest gap between importance and HE contribution was observed for acquisition of subject knowledge, while the widest gap was connected with entrepreneurial skills. Employers perceive HE contribution most significant to acquisition of subject knowledge, teamwork, foreign language, IT usage and public speaking. In the survey, the employers were additionally asked to rate the possibilities for improvement of students' employability skills. The results are presented in Table 1.

Table 1 Importance of HE activities for improving graduate employability

Enterprise size/HE activities for improving students employability	Inclusion of employers in curriculum creation	Creating links between HE and employers	Educating professors on new teaching methods	Creating links between faculties to exchange experiences
Micro-enterprise	5.76	6.42	6.22	6.16
Small enterprise	5.77	6.42	5.87	5.73
Medium enterprise	5.71	6.35	6.41	5.88
Large enterprise	5.50	6.45	6.18	5.95
Overall	5.71	6.42	6.11	5.94

Source: Authors

Among the activities that HEI could undertake to improve graduates' employability employers consider creating links between HE and employers the most valuable. Interestingly, they do not seem to believe that employers taking part in curriculum design would contribute much to improving the employability skills of graduates. The second most beneficial activity, as perceived

by employers, was educating teachers on the contemporary teaching methods. Especially employers from medium sized enterprises consider this useful for creating employable graduates.

## 5. Conclusion

This paper has considered the issue of students' employability from the perspective of employers. The findings of this study could assist graduates in Croatia in understanding what employers require with regard to employability skills. The results of this study compliment previous research which established that for performance in an employment environment, application of knowledge, non-technical skills and certain personal attributes are more important than subject knowledge. Although the findings of this research correspond roughly with the findings from other countries, many significant differences have been observed. The employers in this survey seem to share the opinion that students in general leave faculty with good knowledge of the field studied, but employers do not consider subject knowledge critical for good performance in the employment environment. In their opinion, other dimensions such as learning skills and willingness to learn, as well as problem solving skills, enthusiasm and motivation, are much more important for employment. The findings illustrate that in the changing and challenging environment, students are expected to demonstrate greater employability skills that will help organizations to innovate and succeed. Consequently, the research clearly indicates the need for personal development among graduates for the 21<sup>st</sup> century workplace. A conclusion can also be made that respondents in this study perceive the importance of employability skills, but do not believe that teaching at HEI contributes sufficiently to the development of employability skills in students. The employers seem to agree that the role of higher education institutions (HEI) is not only to produce graduates with specific areas of specialization, but more importantly, to develop graduate employability skills that match the demands required by the employers. Employers in this survey believe that graduates in Croatia have gained adequate subject knowledge, but they seem to agree that more could be done to develop students' wider employability skills and attributes, including valuable transferable and entrepreneurial skills. HEI need to educate people with knowledge and skills, need to facilitate practical application of theoretical knowledge and the acquisition of skills specific to the world of work along with training in areas specific to a particular sector. The employers share the opinion that cooperation between faculties and industry is the crucial factor for increasing students' employability.

These results have obvious implications for improving the curriculum, planning courses and managing graduates careers. Therefore, some very clear recommendations for action can be made, including placing employability at the center of HEI's strategic planning, widening access to work placements and promoting real partnerships between employers and HEIs, as well as considering funding mechanisms which should be used to encourage greater investment in students' employability skills. Only in this way will HE ensure that graduates possess the required set of knowledge, skills, achievements and attributes that will secure employment, benefit themselves and the whole community. It seem that employers expect HEI to develop learning opportunities based on input from a wider variety of sources than in the past. This includes innovative pedagogy, developing novel teaching content, as well as reflection and experiential learning processes, outcomes and assessment to develop a range of employability skills. As other literature on employability, our research also shows that employers expect HEI to build stronger community relationships and partnerships with local employers. We suggest that work experience is used to enhance employability, and it could be arranged as part of regular courses, carried out on a voluntary basis or gained through part-time work. The importance of work placements, internships and work-based learning as effective approaches to promoting the employability of graduates cannot be stressed enough. Such practices are particularly welcome as they additionally promote better understanding and productive collaboration and partnerships between HEI and local employers. Although a few examples of good practice are present at some faculties of the university, it is suggested that these measures be systematic, included into strategic planning (rather

than project-led) and embedded into learning and teaching practice because only that way they would insure a more sustainable impact on employability.

If university courses meet the needs of employers, the demand for such programs will increase. Similarly, by teaching the skills that students are interested in learning, HEI would enhance their students' employment prospects.

Finally, the limitations of the study should be acknowledged. Although the size of the sample was rather small, the authors trust that the findings will have applicability beyond Eastern Croatia. Hence, further research that will include a much wider sample is needed.

## REFERENCES

Agencia per a la Qualitat del Sistema Universitari de Catalunya (2015): *Employers' perceptions of the employability and skills of recent graduations in Catalonia*, Main findings of the AQU Catalunya Employers Survey 2014

Archer, W. and Davison, J. (2008): *Graduate employability: What do employers think and want?*, The Council for Industry and Higher Education (CIHE), London

Audibert, G., Jones, M. (2002): *The Softer Side*, Advisor Today, 97(2), pp. 72.

Cranmer, S. (2006): *Enhancing graduate employability: best intensions and mixed outcomes*, Studies in Higher Education, Vol. 31, No. 2, pp. 169-184

Davies, L. (2000): *Why kick the 'L' out of 'Learning'? The development of students' employability skills through part-time working*, Education & Training, No 42. pp. 436-444.

Eurostat unemployment statistics [http://ec.europa.eu/eurostat/statistics-explained/index.php/Unemployment\\_statistics#Main\\_tables](http://ec.europa.eu/eurostat/statistics-explained/index.php/Unemployment_statistics#Main_tables) (accessed April 2016)

Gunn, V., Bell, S. and Kafmann, K. (2010): *Thinking strategically about employability and graduate attributes: Universities and enhancing learning for beyond university*, in: Enhancement themes, QAA, [http://www.enhancementthemes.ac.uk/documents/G21C/Employability\\_230210.pdf](http://www.enhancementthemes.ac.uk/documents/G21C/Employability_230210.pdf) (accessed February 2016)

Harvey, L., Locke, W. and Morey, A. (2002): *Enhancing Employability Recognising Diversity*, Universities UK, London

Moj posao: *Neformalna edukacija sve bolja podloga za posao*, <http://www.moj-posao.net/Press-centar/Details/73337/Neformalna-edukacija-sve-bolja-podloga-za-posao/31/> (accessed March 28, 2016)

John, J. (2009): *Study on the nature of impact of soft skills training programme on the soft skills development of management students*, Pacific Business Review, pp. 19-27

Klaus, P. (2010): *Communication breakdown*, California Job Journal, No. 28, pp. 1-9

Knight, P. T. and Yorke, M. (2002): *Employability through the curriculum*, Tertiary Education and Management, Vol. 8, No. 4, pp. 261-276

Lees, D. (2002): *Graduate Employability – Literature Review*, LTSN Generic centre, University of Exeter, <http://www.palatine.ac.uk/files/emp/1233.pdf> (accessed February, 2016)

Lindsay, C. (2002): *Long-term unemployment and the employability gap: priorities for renewing Britain's new deal*, Journal of European Industrial Training, Vol. 26, No. 6., pp. 411-419.

Little, B. (2001): *Reading between the lines of graduate employment*, Quality in Higher Education, Vol. 7, No. 2, pp. 121-129

Mason, G. W., Williams, G. and Crammer, S. (2006): *Employability skills initiatives in higher education: what effects do they have on graduate labour outcomes?*, National Institute of Economy and Social Research, London, [http://www.hefce.ac.uk/pubs/rereports/2003/rd13\\_03/default.asp](http://www.hefce.ac.uk/pubs/rereports/2003/rd13_03/default.asp) (accessed February 2016)

Md Saad, M. S., Robani, A. Jano, Z. and A. b. Majid, I. (2013): *Employers' perception on engineering, information and communication technology (ICT) students' employability skills*, Global J. of Engng. Educ, Vol. 15, No. 1, pp. 42-47

Recommendation of the European Parliament and of the Council of 18 December 2006 on key competences for lifelong learning OJ L 394, 30.12.2006, p. 10–18 Available at: <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex:32006H0962> (accessed: March 2016)

Robinson, J. P. (2000): *What are employability skills?*, Alabama Cooperative Extension System, Vol. 1, No. 3, pp. 1-3

Rothwell, A. and Arnold, J. (2007): *Self-perceived employability: development and validation of a scale*, Personnel Review, Vol. 36, No. 1, pp. 23-41

Rosenberg, S., Heimler, R., Morote, E. S. (2012): *Basic employability skills: a triangular design approach*, Education and Training, 54(1), pp. 7-20.

The Gallup Organization (2010): *Employers perception of graduate employability*, Analytical report

Watts M and Watts RK (2008), *Developing soft skills in students* retrieved January 2009, [http://108.cgpublisher.com/proposals/64/index\\_html](http://108.cgpublisher.com/proposals/64/index_html)

Winterbotham M., Vivian D., Shury J., Davies B., Kik, G (2014) *The UK Commission's Employer Skills Survey 2013: UK Results*, Evidence Report 81 Rotherham UKCES 2014 [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/327492/evidence-report-81-ukces-employer-skills-survey-13-full-report-final.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/327492/evidence-report-81-ukces-employer-skills-survey-13-full-report-final.pdf) (accessed March 2016)

Yorke, M. and Knight, P. (2006): *Embedding Employability into the Curriculum*, Learning and Employability Series One, York: Higher Education Academy, York

Zehr, M. A. (1998): *New office economy putting greater demands on schools*, Education week, Vol. 17, No. 23, p. 7

**Sanja Sever Mališ, Ph.D**

University of Zagreb, Faculty of Economics and Business, Croatia

Trg J. F. Kennedyja 6, 10000 Zagreb, Croatia

Phone: +38512383184

E-mail: ssever@efzg.hr

**Mateja Brozović, Master of Economics**

Trg J. F. Kennedyja 6, 10000 Zagreb, Croatia

University of Zagreb, Faculty of Economics and Business, Croatia

Phone: +38512383184

E-mail: mbrozovic@efzg.hr

**INDUSTRY SPECIALIZATION OF AUDIT FIRMS IN CROATIA****INDUSTRIJSKA SPECIJALIZACIJA REVIZORSKIH DRUŠTAVA U  
REPUBLICI HRVATSKOJ****ABSTRACT**

*The increasing complexity in financial reporting, judgmental audit areas and undermined user confidence in reported financial information result in the need for more experienced auditors with industry-specific knowledge. Prior research showed that auditor industry specialization is positively associated with audit quality, suggesting that industry knowledge improves audit risk assessment and audit-planning decisions. In other words, audit firms that are industry specialists invest time and financial resources in developing personnel and technology in specific industries to improve audit quality. Moreover, auditors that invest in gaining specific industry expertise and have larger market shares in a certain industry are able to split the knowledge-developing costs and achieve economies of scale. The aim of this paper is to investigate if industry specialization among audit firms exists in Croatia or audit firms adopt a different approach, providing services to a wide range of clients and gaining general audit knowledge. The research was conducted on a population of companies in Croatia that were the subject of statutory audit in the year 2014. Industry specialists were determined using the within-industry market share approach, in which an auditor is considered to be industry specialist if it has a significant market share (20% or more) in the industry, based on the total revenue of its clients. According to the research results, we identified six audit firms as industry specialists, which include all Big Four audit firms, as it was expected. Therefore, it can be concluded that there are signs of industry specialization of large audit firms in Croatia.*

**Keywords:** *audit firms, auditor industry specialization, audit market, Croatia, statutory audit.*

**SAŽETAK**

*Rastuća složenost financijskog izvještavanja, područja revizije koja zahtijevaju profesionalnu prosudbu revizora i poljuljano povjerenje korisnika u prezentirane financijske informacije dovode do potrebe za angažiranjem iskusnih revizora koji imaju stručna znanja specifična za pojedinu industriju u kojoj klijent posluje. Prethodna istraživanja su pokazala da je industrijska specijalizacija revizorskog društva pozitivno povezana s kvalitetom revizije, u smislu da znanja o konkretnoj industriji pomažu revizoru u procjeni rizika i planiranju revizije. Drugim riječima, revizorska društva koja su industrijski specijalisti ulažu vrijeme i financijske resurse u razvoj kadrova i tehnologije koji su posebno prilagođeni zahtjevima industrije klijenta. Osim toga,*



*revizorska društva koja investiraju u stjecanje stručnih znanja vezanih uz određenu industriju i koja imaju veće tržišne udjele u toj industriji mogu iskoristiti pozitivne učinke ekonomije obujma i na taj način raspodijeliti troškove stjecanja znanja na veći broj klijenata. Cilj ovog rada je istražiti postoje li industrijski specijalisti među revizorskim društvima u Republici Hrvatskoj ili revizorska društva koriste drugačiji pristup, pružajući revizijske usluge širokom rasponu klijenata i fokusirajući se na stjecanje općih znanja o reviziji. Istraživanje je provedeno na populaciji poduzeća u Republici Hrvatskoj koja su bili obveznici zakonske revizije u 2014. godini. Industrijski specijalisti su definirani na temelju pristupa koji se temelji na tržišnim udjelima unutar pojedine industrije, prema kojem se revizorsko društvo smatra specijalistom za određenu industriju ako ima značajan tržišni udio (20% ili veći) u toj industriji, temeljeno na ukupnim prihodima klijenata. Sukladno rezultatima istraživanja, šest revizorskih društava je identificirano kao industrijski specijalisti, među kojima su sva društva iz skupine Velike četvorke, kao što je i očekivano. Prema tome, može se zaključiti da postoje znakovi industrijske specijalizacije velikih revizorskih društava u Republici Hrvatskoj.*

**Ključne riječi:** *revizorska društva, industrijska specijalizacija revizora, tržište revizijskih usluga, Republika Hrvatska, zakonska revizija.*

## **1. Introduction**

In order to understand why audit firms would specialize in a particular industry, audit market has to be viewed as a regular market with suppliers on the one side and buyers on the other. According to Porter's Five Forces model, every industry is characterized with the rivalry among existing competitors, the threat of new entrants, the threat of substitute product or services, the bargaining power of suppliers, and the bargaining power of buyers (Ankli, 1992, 230). From the perspective of audit firms on the supply side of the market, the main forces are the bargaining power of the client and competition from other audit firms (Mayhew, Wilkins, 2003, 35). In order to create competitive advantage and to distinguish itself from other suppliers, an audit firm has incentives to provide unique service that cannot be replicated easily by competing audit firm. One way to achieve that is to find market niches where it can develop an above-average expertise to better satisfy clients' needs. Such a strategy is most likely to be successful in industries with specific accounting rules and requirements, where the industry expertise is viewed as an added value by the client. Therefore, not all industries are suitable for audit industry specialization. This paper gives an overview of previous research related on audit industry specialization, regarding its levels across different countries, common measures and benefits. The aim of the paper is to investigate if audit firms in Croatia use the strategy of industry specialization, and if this is the case, in which industries and what proportion of clients it affects.

## **2. Literature review**

Previous studies that tackled the issue of audit industry specialization can be grouped into two clusters: 1) studies that analyzed the level of audit industry specialization in one particular country or across different countries for comparison, and 2) studies that explored potential benefits or drawbacks of audit industry specialization. The starting point in all studies related to the issue is defining industry specialists.

### **2.1. Common measures for identifying audit industry specialists**

Several measures of auditor industry specialization have been used in the empirical audit research. Since the general definition of audit industry specialist refers to an audit firm that has gained unique expertise and deep understanding of a certain industry, there is no single measure that could capture that knowledge and clearly distinguish between specialist and non-specialist audit firms. Therefore,

different proxies based on the publicly available data were used. Based on the review of previous research, three different approaches can be identified: audit firm's industry market share, portfolio market share and a composite measure as a result of combining the first two measures.

The industry market share approach suggests that audit firms are specialists if they audit a large share of companies in a certain industry. Industry market share can be based on clients' assets/sales, total number of clients or audit fees. Due to unavailability of the data on audit fees paid in the majority of the countries, market shares are usually calculated on the basis of client characteristics or the number of clients audited. This approach assumes that industry expertise increases with the size of the auditor's industry market share. The portfolio approach concentrates on the distribution of auditor fees across industries, where industries that are more strongly represented in the total fee distribution of an audit firm are considered to be the industries that the auditor is specialized (Verleyen, De Beelde, 2011, 278-279). In order to overcome the potential weaknesses of using a single measure, the third approach has been developed. It assumes calculating the product of the industry market share and portfolio market share. An overview of measures is presented in Table 1.

**Table 1** Most common measures for identifying audit firms that are industry specialists

	Based on the total assets/sales of clients	Based on the number of clients	Based on the audit fees/transformed assets
<i>Industry market share</i>	Minutti-Meza, 2010, 13 Benslimene, Dumontier, 2014, 13 Carcello, Nagy, 2004, 657 Balsam et al., 2003, 33 Lim, Tan, 2008, 208 Almutairi et al., 2009, 605-606 Zhou, Elder, 2002, 11 Dunn, Mayhew, 2004, 44 Casterella et al., 2004, 127 Huang et al., 2007, 151	Verleyen, De Beelde, 2011, 279 Balsam et al., 2003, 33 Ishak et al., 2013, 51 Ali et al., 2008, 91	Payne, 2008, 115 Carson, Fargher, 2007, 428 Numan, Willekens, 2012, 35 Mayhew, Wilkins, 2003, 41 Hoelscher, Seavey, 2014, 602 Bills et al., 2014, 10 Scott, Gist, 2013, 715 Dao, Pham, 2014, 497
<i>Portfolio market share</i>	Almutairi et al., 2009, 605-606	Verleyen, De Beelde, 2011, 279	Payne, 2008, 115 Sun, Liu, 2012, 51-52
<i>Weighted market share (combined measure)</i>	Almutairi et al., 2009, 605-606 Fleming et al., 2014, 360	/	Payne, 2008, 115

Source: Systematized by the authors

Table 1 shows that the most common approach in previous research is the industry market share approach based on the client characteristics, which means that the market share is calculated by dividing audit firm clients' revenues/assets with total revenues/assets of all companies within a single industry. After calculating market shares, audit firms are identified as industry specialist if they have: the largest market share, dominate the audit market within the industry, or have a market share greater than the threshold (Table 2).

**Table 2** Methods of identifying industry specialists within the industry market approach based on clients' characteristics

	Author	Description of the measure
<i>Audit market dominance</i>	Minutti-Meza, 2010, 13	audit firm that has the largest market share in an industry and more than 10% greater market share than the closest competitor
	Balsam et al., 2003, 33	
	Almutairi et al., 2009, 605-606	
<i>Market share greater than the threshold</i>	Benslimene, Dumontier, 2014, 13	audit firm with the market share greater than 10%
	Zhou, Elder, 2002, 11	audit firm with the market share greater than 15%
	Carcello, Nagy, 2004, 657	audit firm with the market share greater than 20%
	Casterella et al., 2004, 127	
	Dunn, Mayhew, 2004, 44	
	Casterella et al., 2004, 127	audit firm with the market share greater than 25%
	Huang et al., 2007, 151	audit firm with the market share greater than 25% (33.3%)
<i>Largest market share</i>	Carcello, Nagy, 2004, 657	audit firm with the highest market share in the industry

Source: Systematized by the authors

As expected, different definitions of auditor industry specialists lead to inconsistent designation of audit firms as industry specialists (Jiang et al., 2012, 1), which complicates the comparison of the results of previous research regarding the levels of industry specialization across countries and the effect of audit industry specialization on audit quality.

## **2.2. The potential positive and negative effects of audit firm industry specialization**

Due to the increases in competition on the audit market and the complexity of the industry-specific accounting rules, audit firms have looked for a way to distinguish them from their competitors and to develop competitive advantage. *“A firm with industry expertise may exploit its specialization by developing and marketing audit-related services which are specific to clients in the industry and provide a higher level of assurance (Government Accountability Office, 2008, 111).”* Therefore, there are benefits for the clients in the form of an above-average service and for the audit firm in cost savings and potential fee premiums.

Audit firms that aim to specialize in a certain industry invest time and financial resources to acquire special knowledge and understanding of that industry's issues. If an audit firm concentrates on developing specialization in an industry, then the audit firm is likely to have a significant market share of that industry. Audit firms with large market shares are able to achieve economies of scale, by spreading the industry-specific training costs over larger base of clients (Mayhew, Wilkins, 2003, 33). According to the experiment conducted by Low (2004), auditors' knowledge of the client's industry improves their audit risk assessments and also affects the nature, quality and risk-sensitivity of their planning decisions (Low, 2004, 201-202). Moreover, it is argued that industry specialists have greater incentives to maintain their independency and continue providing high-quality audits to protect their reputational capital (Lim, Tan, 2010, 928-929). If an audit firm establishes its position as an industry specialist and it is able to provide unique quality service to its clients, then it becomes hardly replaceable and may charge fee premiums in return. However, several researchers came to the conclusion that the fee level depends on the bargaining power of the client, which is often related to the size of the client and its relative importance in the auditor's client portfolio. Casterella et al. (2004) found no evidence of a fee premium for auditor industry specialization in case of larger-sized companies, as opposed to the segment of smaller clients with lower bargaining power (Casterella et al., 2004, 124). The negative association between the clients' bargaining power and the audit fees (also confirmed by Huang et al., 2007, 147) suggests that the audit firm is forced to split a portion of its cost savings with such clients (Mayhew, Wilkins, 2003, 33). Except for the client bargaining power, audit fee levels and cost savings also depend on the characteristics of the industry. According to Bills et al. (2014), specialist auditors are able to benefit from the economies of scale when providing services to clients in industries with homogenous operations, where they can apply learned audit procedures and reporting knowledge (Bills et al., 2014, 2). Additionally, it has been found that audit fee premiums are also associated with global specialist audit firms, irrespective of whether those audit firms are national specialists (Carson, 2009, 355). Therefore, it can be concluded that industry specialized audit firms may charge fee premiums if they have successfully differentiated themselves from the competitors and retained the bargaining power when negotiating with clients.

Apart from the benefits than industry specialization brings to audit firms, there are also several reasons why companies would hire auditors that are specialized in their industry. Since the statutory auditor provides a reasonable assurance that there are no material misstatements in the financial statements, it is supposed to minimize earnings management. *“Industry specialist auditors may constrain earnings management not only through the audit of financial statements but also through their interaction with the client's internal corporate governance mechanisms including board of directors (Sun, Liu, 2012, 45).”* Research findings show that industry specialists are related to less earnings management in the initial public offering process (Zhou, Elder, 2002, 1). Moreover, audit

firm's independence is less likely to be compromised in case of specialists compared to non-specialists with the provision of non-audit services (Lim, Tan, 2008, 199) and longer audit tenure (Lim, Tan, 2010, 927). In addition, there is a negative relation between auditor industry specialization and client financial fraud (Carcello, Nagy, 2004, 652; Sarwooko, Agoes, 2014, 271). Audit of the financial statements only serves a purpose if the stakeholders trust the auditor's opinion. Several previous researches showed that hiring an industry specialist auditor serves as a positive signaling effect to the stakeholders. Specifically, it was found that the market's perception of disclosure quality is higher for companies engaging industry specialist auditors, which results in the reduction of information asymmetry (Almutairi et al., 2009, 600). This effect is particularly expressed in unregulated industries where enhanced disclosures add the most value (Dunn, Mayhew, 2004, 35). Moreover, hiring an industry-specialized auditor reduces the audit report lag during the early years of audit engagements (Dao, Pham, 2014, 490).

Nevertheless, not all companies are willing to choose an industry specialist audit firm. Smaller audit firms may build their competitive advantage by providing more personal services due to the smaller client portfolio, which may be seen as a big advantage from the point of small clients (Mayhew, Wilkins, 2003, 36). Furthermore, certain companies prefer to avoid auditors who service a large number of its competitors to minimize the risks of information transfer (Dunn, Mayhew, 2004, 39). Due to the advantages and disadvantages of audit industry specialization, every company has to weight possible benefits and costs when deciding whether to hire an audit firm that specializes in its industry. Since the industry specialization has an upward trend among audit firms, it is clear the advantages outweigh the disadvantages from the standpoint of the majority of audit clients.

### **2.3. Levels of audit firm specialization in other countries**

It should be emphasized that the findings of studies on audit industry specialization across different countries are not fully comparable due to different measures and timeframes. However, they can serve as an orientation when assessing the dynamics of the audit market. Minutti-Meza (2010) used the industry market share measure on a sample of 75,188 observations from 1988 to 2008, showing that 10.84% of U.S. companies in the observed period were audited by industry specialists. Industry specialists were defined as audit firms with highest market share in the industry (based on clients' sale), which exceeds the market share of the closest competitor by at least 10% (Minutti-Meza, 2010, 22). More recent research shows even higher figures. Based on the sample of 31,689 U.S. company-years from 1992 to 2001, Amutairi et al. (2009) found that approximately 18.5% of sample companies were audited by an industry specialist when specialization is defined by the industry market share measure, and 16.8% when the measure is based on the portfolio market share. (Almutairi et al., 2009, 613). Numan and Willekens came to similar results. From a sample of 7071 U.S. companies in the period 2005-2008, 17.6% were audited by the industry specialists. The difference is that industry specialists were defined as audit firms with industry market share larger than 30% (Numan, Willekens, 2012, 19).

A study conducted in 15 European countries indicates that industry specialists occupy an important place on audit market for listed companies in Europe. When the threshold for audit industry specialists is set at 10% of industry market share (based on total assets) at EU level, it can be concluded that audit firms that specialize in the industry audit 49.41% of listed companies from the sample, with the highest proportion in the automotive industry (75%)(Benslimene, Dumontier, 2014, 32). It is interesting to observe if international audit firms show consistent patterns of industry specialization across countries. The study on 28,352 European companies suggests that this is true for some industries, such as the chemical and the business services industries. However, there is also evidence that individual audit firms (i.e. audit firms at the national level) specialize in specific industry segments, regardless of the international networks, which results in different positions of large audit firms across countries (Verleyen, De Beelde, 2011, 283-284).

### 3. Data and methods used in the empirical research

The analysis of the level of audit industry specialization in Croatia was conducted on the population of companies that were the subject of statutory audit in 2014. According to the data gathered from the Financial agency (FINA), the total number of entities under statutory audit was 2865. Due to the unavailability of data on the engaged audit firm for certain entities, the research population was reduced to 2617 companies.

The majority of audit clients in the research population belong to the section of activity G – “Wholesale and retail trade; repair of motor vehicles and motorcycles” (30%) and C – “Manufacturing” (26%), according to the National classification of activities – NKD 2007. The total revenue of the companies covered by the research was 434 billion HRK, where the majority of revenue was generated in two sections of activities with the majority of companies (G – 34% of the total revenue, and C – 29% of the total revenue).

On the supply side of the statutory audit market, the total number of audit firms that conducted statutory audit in 2014 is 196. When calculating market shares on the basis of clients' revenues, six audit firms stand out, which includes all Big Four audit firms. The six largest audit firms audit 27% of all clients and 64% of the total revenue. This suggests that the Croatian audit market is highly concentrated. The difference in the market share of the sixth ranked and seventh ranked audit firm is more than 6 percentage points, which clearly distinguishes the largest six audit firms from the other 190 audit firms. Moreover, there are 185 audit firms with market share below 1% (Table 3).

**Table 3** Audit firm ranking based on industry market shares

<i>Audit firm ranking based on total revenues of clients</i>	<b>Market share based on the number of clients</b>	<b>Market share based on total revenues of clients</b>
<i>First ranked</i>	3.67	13.52
<i>Second ranked</i>	6.57	12.72
<i>Third ranked</i>	5.39	12.19
<i>Forth ranked</i>	5.12	9.61
<i>Fifth ranked</i>	5.08	8.13
<i>Sixth ranked</i>	1.57	7.35
<i>Other audit firms</i>	72.60	36.47
<b>Total</b>	<b>100.00</b>	<b>100.00</b>

*Source: Calculated by the authors*

Out of the number of entities on the supply side and the demand side of the audit market in Croatia, it can be concluded that every audit firm has on average 13.35 clients and accounts for approximately 2.2 billion HRK in clients' revenue. Two measures of industry specialization were used in the empirical research. The first measure refers to the industry market share based on the number of clients, which means that the number of clients an audit firm has within an industry was divided by the total number of companies in the industry. The second measure is the industry market share based on the clients' revenues to put more emphasis on larger clients. Clients' revenues from the 2013 were used as an approximation of the revenues generated in 2014. *Industry* was defined according to the structure of the National classification of activities – NKD 2007, which is equivalent to the NACE, Rev. 2 (2008) – Statistical Classification of Economic Activities in the European Community.

### 4. Results and discussion of findings

In the first step, audit industry specialists were identified at the level of *sections* of activities (capital letters of the NKD 2007), and subsequently at the level of *divisions* of activities (two-digit classification of the NKD 2007). Companies that were the subject of statutory audit in 2014 were distributed across 18 sections. After eliminating two sections with only one entity, 16 sections

remained. When the market shares of audit firms are calculated on the basis of clients' revenues, 13 out of 16 sections have an industry specialist. Three sections without the industry specialist are: F – *Construction*, G – *Wholesale and retail trade; repair of motor vehicles and motorcycles*, and N – *Administrative and support service activities*. There are two sections with more than one industry specialist: J – *Information and communication*, and K – *Financial and insurance activities*.

Based on the clients' revenues, six audit firms are identified as industry specialists, which includes Big Four auditors, BDO Croatia and Baker Tilly Discordia. Five of them specialize in two or more sections. In case of some auditors, the specialization strategy is clear from the types of sections they specialize in, meaning that sections can be assigned to wider groups of activities. For example, PWC specializes in four sections which all belong to the category of *Non-financial services* (I – *Accommodation and food service activities*, J – *Information and communication*, M – *Professional, scientific and technical activities* and S – *Other service activities*). Ernst & Young is specialized in two activities that can be classified as the *Industry* (B – *Mining and quarrying* and C – *Manufacturing*). On the other hand, there are also audit firms that specialize in sections which do not belong to the same category of activities, like Deloitte, whose sections can be assigned to *Financial services* (K – *Financial and insurance activities*), *Non-financial services* (J – *Information and communication* and L – *Real estate activities*) and *Industry* (E – *Water supply; sewerage, waste management and remediation activities*).

When the industry specialists are identified based on the number of clients, the number of specialists is significantly lower (i.e. three) and only 22 clients or less than 1% of the total number of clients were audited by industry specialists. However, when clients' revenues served as a basis for identifying industry specialists, it can be concluded that six industry specialists account for approximately 100 billion in clients' revenue in the sections they specialize in, which is 23% of the total clients' revenue.

Previous researchers have studied audit industry specialization at the level of two-digit classification of activities, which is much more detailed than the sections of activities. According to the NKD 2007, it refers to divisions of activities. Using the same methods as for the sections of activities, it was found that 63 out of 76 divisions have at least one audit firm with the market share (based on clients' revenues) larger than 20%, which is considered to be an industry specialist. The total number of audit firms that were identified as industry specialists is 31 (16% of all audit firms), which refers to 20 audit firms that specialize in only one division and 11 audit firm specializing in two or more divisions. From the clients' perspective, 157 or 6% of the clients were audited by an audit firm which is considered to be the industry specialists in their primary division of activity. On the other hand, when market shares are calculated on the basis of clients' revenues, clients of industry specialists generated 37% of the total revenues or 162 billion HRK, which shows how important the industry specialist are on the Croatian audit market.

**Table 4** Summary of audit industry specialization figures when market shares are calculated on the level of divisions

		Based on the number of clients	Based on the revenues of clients
Divisions	Number of divisions with industry specialist	38	63
	Number of divisions without industry specialist	38	13
Audit firms	Total number of audit firms conducting statutory audit	192	192
	Number of industry specialists	31	28
	Number of industry specialists which specialize in 2 or more divisions	11	9
	Number of industry specialists which specialize in 5 or more divisions	5	6
Clients	Total number of clients / revenues of clients subject to statutory audit	2617	433.6 bn. HRK
	Number of clients / revenues of clients audited by industry specialists	157	161.6 bn. HRK
	% of the number / revenues of clients audited by industry specialists	6.00	37.27

Source: Calculated by the authors

## 5. Conclusion

Due to the increased competition on the audit market and the complexity of industry-specific accounting rules, audit firms try to develop competitive advantage by specializing in certain industries. Positive effects of audit firm industry specialization have been confirmed in a number of previous studies. From the auditors' perspective, industry specialization enables audit firms to acquire specific industry expertise, with the ability to spread the cost across a wider customer base within the same industry. In case they are successful in distinguishing themselves from their closest competitors, they can even charge fee premiums. On the other hand, benefits for clients' stakeholders include less earnings management, lower financial fraud and higher market's perception of disclosure quality.

In order to determine the spread of the auditor industry specialization in the Croatian audit market, an empirical research was conducted on the population of companies that were the subject of statutory audit in 2014. It can be concluded that the Croatian audit market is highly concentrated. When the industry specialists were identified at the level of sections of activities and on the basis of clients' revenues, the total number of audit firms that are considered to be industry specialists is six. On the other hand, when exploring industry specialization at the level of divisions of activities, 31 audit firms or 16% of all audit firms are identified as industry specialists and their clients from the divisions they specialize in account for 37% of the total revenue. Therefore, there are clear signs of industry specialization on the audit market in Croatia.

Due to the several definitions of auditor industry specialists found in the previous research and without a general consensus on the most reliable measure, the most common measure was identified and used in this research. However, results and findings might differ to some extent in case that a different measure of industry specialization is applied. Future research could be directed towards investigating the correlation between industry specialization and audit quality, in which case the results of this research would serve as a starting point and a valuable input.

## REFERENCES

- Ali, A. M. et al. (2008): *Audit specialization in Malaysia*, International Journal of Business and Management, Vol. 3, No. 3, pp. 91-99.
- Ankli, R. E. (1992): *Michael Porter's competitive advantage and business history*, Business and Economic History, Vol. 21, No. 2, pp. 228-236.
- Almutairi, A. R. et al. (2009): *Auditor tenure, auditor specialization, and information asymmetry*, Managerial Auditing Journal, Vol. 24, No. 7, pp. 600-623.
- Balsam, S. et al. (2003): *Auditor industry specialization and earnings quality*, Auditing: A Journal of Practice & Theory, Vol. 22, No. 2, pp. 71-97. Available at: [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=436260](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=436260) (accessed 08 March 2016).
- Benslimene, I., Dumontier, P. (2014): *The complimentary impacts of audit regulation and auditor quality on earnings quality: the European evidence*, Preliminary version. Available at: <http://wp.unil.ch/earnnet2015/files/2014/10/The-complementary-Impacts-of-Audit-Regulation-and-Auditor-Quality-on-Earnings-Quality-the-European-Evidence.pdf> (accessed 08 March 2016).
- Bills, K. L. et al. (2014): *Auditor industry specialization and evidence of cost efficiencies in homogenous industries*, The Accounting Review, Vol. 90, No. 5, pp. 1721-1754. Available at: [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2321741](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2321741) (accessed 03 March 2016).
- Carcello, J. V., Nagy, A. L. (2004): *Client size, auditor specialization and fraudulent financial reporting*, Managerial Auditing Journal, Vol. 19, No. 5, pp. 651-668.
- Carson, E. (2009): *Industry specialization by global audit firm networks*, The Accounting Review, Vol. 84, No. 2, pp. 355-382.

- Carson, E., Fargher, N. (2007): *Note on audit fee premiums to client size and industry specialization*, Accounting and Finance, Vol. 47, No. 1, pp. 423-446.
- Casterella, J. R. et al. (2004): *Auditor industry specialization, client bargaining power, and audit pricing*, Auditing: A Journal of Practice & Theory, Vol. 23, No. 1, pp. 123-140.
- Dao, M., Pham, T. (2014): *Audit tenure, auditor specialization and audit report lag*, Managerial Auditing Journal, Vol. 29, No. 6, pp. 490-512.
- Dunn, K. A., Mayhew, B. W. (2004): *Audit firm industry specialization and client disclosure quality*, Review of Accounting Studies, Vol. 9, No. 1, pp. 35-58.
- Financial Agency, Registar godišnjih financijskih izvještaja [Registry of annual financial statements]. Available at: <http://www.fina.hr/Default.aspx> (accessed 08 March 2016).
- Fleming, D. et al. (2014): *Auditor industry specialization and audit fees surrounding Section 404 implementation*, Review of Accounting and Finance, Vol. 13, No. 4, pp. 353-370.
- Government Accountability Office – GAO (2008): *Audits of public companies – Continued concentration in audit market for large public companies does not call for immediate action*.
- Hoelscher, J. L., Seavey, S. E. (2014): *Auditor industry specialization and corporate risk-taking*, Managerial Auditing Journal, Vol. 29, No. 7, pp. 596-620.
- Huang, H.-W. et al. (2007): *Auditor industry specialization, client bargaining power, and audit fees: further evidence*, Auditing: A Journal of Practice & Theory, Vol. 26, No. 1, pp. 147-158.
- Ishak, M. A. et al. (2013): *Audit market concentration and auditor's industry specialization*, Procedia – Social and Behavioral Sciences, Vol. 91, No. 1, pp. 48-56.
- Lim, C.-Y., Tan, H.-T. (2010): *Does auditor tenure improve audit quality? Moderating effects of industry specialization and fee dependence*, Contemporary Accounting Research, Vol. 27, No. 3, pp. 923-957.
- Lim, C.-Y., Tan, H.-W. (2008): *Non-audit service fees and audit quality: The impact of auditor specialization*, Journal of Accounting Research, Vol. 46, No. 1, pp. 199-246.
- Low, K.-Y. (2004): *The effects of industry specialization on audit risk assessments and audit-planning decisions*, The Accounting Review, Vol. 79, No. 1, pp. 201-219.
- Mayhew, B. W., Wilkins, M. S. (2003): *Audit firm industry specialization as a differentiation strategy: Evidence from fees charged to firms going public*, Auditing: A Journal of Practice & Theory, Vol. 22, No. 2, pp. 33-52.
- Minutti-Meza, M. (2010): *Does auditor industry specialization improve audit quality? Evidence from comparable clients*. Available at: <http://raw.rutgers.edu/docs/seminars/spring11/Minutti-Meza.pdf> (accessed 08 March 2016).
- Numan, W., Willekens, M. (2012): *Competitive pressure, audit quality and industry specialization*. Available at: [https://www.ou.edu/dam/price/accounting/files/quality\\_competition\\_Oklahoma\\_May2012.pdf](https://www.ou.edu/dam/price/accounting/files/quality_competition_Oklahoma_May2012.pdf) (accessed 08 March 2016).
- Payne, J. L. (2008): *The influence of audit firm specialization on analysts' forecast errors*, Auditing: A Journal of Practice & Theory, Vol. 27, No. 2, pp. 109-136.
- Sarwoko, I., Agoes, S. (2014): *An empirical analysis of auditor's specialization, auditor's independence and audit procedures on audit quality: Evidence from Indonesia*, Procedia – Social and Behavioral Sciences, Vol. 164, No. 1, pp. 271-281.
- Scott, W. D., Gist, W. E. (2013): *Forced auditor change, industry specialization and audit fees*, Managerial Auditing Journal, Vol. 28, No. 8, pp. 708-734.
- Sun, J., Liu, G. (2012): *Auditor industry specialization, board governance, and earnings management*, Vol. 28, No. 1, pp. 45-64.
- Verleyen, I., De Beelde, I. (2011): *International consistency of auditor specialization*, International Journal of Auditing, Vol. 15, No. 1, pp. 275-287.
- Zhou, J., Elder, R. (2002): *Audit firm size, industry specialization and earnings management by initial public offering firms*. Available at: [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=321041](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=321041) (accessed 08 March 2016).



**Jelena Šišara, univ.spec.oec**  
Veleučilište u Šibeniku  
Trg Andrije Hebranga 11  
22000 Šibenik  
Phone:00385/22311080  
E-mail address: jelena@vus.hr

**Jasmina Sladoljev, univ.spec.oec**  
Veleučilište u Šibeniku  
Trg Andrije Hebranga 11  
22000 Šibenik  
Phone:00385/22311080  
E-mail address: jasmina@vus.hr

**Dr.sc. Ana Udovičić**  
Veleučilište u Šibeniku  
Trg Andrije Hebranga 11  
22000 Šibenik  
Phone:00385/22311080  
E-mail address: ana\_u@vus.hr

## **IDENTIFYING MOTIVATIONAL FACTORS AND STUDENTS ENTREPRENEURIAL INTENTION**

### **IDENTIFICIRANJE MOTIVACIJSKIH FAKTORA I PODUZETNIČKIH NAMJERA KOD STUDENATA**

#### ***ABSTRACT***

*Entrepreneurship is considered to be the central force of economic development as it generates growth and services that lead to innovation and change. Therefore, since the entrepreneurs are the drivers of growth and development it is significant to research the human factor in entrepreneurship. Nowadays, many studies have focused on measuring the entrepreneurial intentions among students population, because they are considered as the most suitable candidates to fulfill their desires, to make use of their skills and to realize their ideas. The aim of this paper is to identify motivational factors for undergraduate students for entrepreneurial intention. The empirical research was carried on with 19 motivational items (to provide employment, to provide job security, to get Opportunities in the market, to Earn a reasonable living, to take advantage of my creative talent, for my own satisfaction and growth, to be my own boss, to realize my dream, for my personal freedom, to challenge myself, good economic environment, I enjoy taking risk, to invest personal savings, to use the skill learned in the polytechnic, entrepreneurial family culture, increase my prestige and status follow the example of someone that I admire, enjoy myself, to maintain my family) for entrepreneurs and survey was collected from students of Department of Management Undergraduate Professional Study in Šibenik. The Department of Management Undergraduate Professional Study is a part of Polytechnic of Šibenik, and it consists of two studies: Tourism management and IT management, both in duration of 6 semesters. The principal component analysis and descriptive statistics, were used for data analysis. The results indicate that students don't have high motivation for involving in entrepreneurial career.*

**Key words:** *Motivational Factors, Entrepreneurial Intention, Entrepreneurs, Students, Department of Management Undergraduate Professional Study*

## SAŽETAK

*Poduzetništvo se smatra središnjom snagom ekonomskog razvoja, jer generira rast i usluge koje vode inovacijama i promjenama. Stoga je istraživanje ljudskog faktora u poduzetništvu od izuzetne važnosti, jer su poduzetnici pokretači rasta i razvoja. U današnje vrijeme mnoge studije su se usredotočile na mjerenje poduzetničke namjere kod studenata pošto se oni smatraju najpogodnijim kandidatima da ostvare svoje želje i iskoriste svoje sposobnosti, te svoje ideje prenesu u djela. Cilj ovog rada je utvrditi motivacijske čimbenike i poduzetničke namjere kod studenata. Istraživanje je provedeno na temelju 19 motivacijskih čimbenika (osigurati zaposlenje, osigurati sigurnost radnog mjesta, iskoristiti prilike na tržištu, zaraditi za pristojan život, iskoristiti prednosti svog kreativnog talenta, osobno zadovoljstvo i rast, biti sam svoj šef, ostvariti svoj san, osobna sloboda, izazvati samog sebe, dobro gospodarsko okruženje, zbog uživanja u preuzimanju rizika, uložiti osobnu štednju, iskoristiti vještine koje sam naučio na veleučilištu, obiteljska poduzetnička kultura, povećati svoj ugled i status, slijediti primjer nekoga kome se divim, uživati, kako bi uzdržavali svoju obitelj) za poduzetnike na studenatima preddiplomskog stručnog studija Menadžmenta u Šibeniku. Preddiplomski stručni studij Menadžmenta je dio Veleučilišta u Šibeniku, te izvodi dva studija: Turistički menadžment i Informatički menadžment, oba u trajanju od 6 semestara. Analiza podataka obavljena je na temelju Mann-Whitney testa i deskriptivne statističke analize. Rezultati istraživanja pokazuju kako studenti nisu visoko motivirani za ostvarivanje karijere u poduzetništvu.*

**Ključne riječi:** *Motivacijski faktori, Poduzetničke namjere, Poduzetnici, Studenti, Stručni studij Menadžmenta*

### 1. Introduction

Entrepreneurship is considered as the central force of economic development, as it generates growth and services that lead to innovation and change (Lordkipanidze, Brezet, Backman, 2004, 136). Nowadays Nations are facing with problem of unemployment as well as young people have serious issue to grab suitable job due to lack of experience. Considering of the above, most of academia, politicians, media, and governments have shown a lot of interests in entrepreneurship. Entrepreneurial intention is a mood of individual to run a new business and bring some innovation in existing firm. There are many studies that have focus on measure entrepreneurial intention at university students since they are considered to be most suitable candidates to pursue their capabilities into actions. To achieve economic prosperity and growth it is essential to involve both education and entrepreneurship in entrepreneurial development (Tanveer et al., 2013, 263).

Being an entrepreneur is often viewed as an aversive career choice where one is faced with everyday life and work situations that are fraught with increased uncertainty, impediments, failures, and frustrations associated with the process of new firm creation (Campbell, 1992). Not surprisingly, many researchers have investigated the motivation to become self-employed. What is it about certain people that drives them to take on the risk, the uncertainty and the independent structure of business ownership? (Segal, Borgia, Schoenfeld, 2005, 42). Since every entrepreneur has unique characteristics and traits which have direct impact on intention to start a business, make it successful, and to increase the entrepreneurial practices, different authors variously define motivational factors for entrepreneurial intention. According to Nor and Yufiza (2004) some of major motivational factors for entrepreneurial intention are: sense of achievement, sense of freedom, desire for wealth, risk taking, innovation, and sense of success. While in Yousuf et al (2007) discusses how individual characteristics and traits have strong positive relationship with entrepreneurial intention. According to Yahya (2010) family background, education, and gender are also source of motivation in entrepreneurial intention.

Since the students from different parts of the world grow up and live in very different political, economic, and cultural circumstances (Pruett, Shinnar, 2009, 572) it was important to research students entrepreneurial intentions in Department of Management Undergraduate Professional Study in Šibenik (Republic of Croatia). With regard to the above it is significant to point out that Republic of Croatia can be defined as a country in transition that has great problems with the number of unemployed and the number of people who live at the poverty level (Vehovec, M., et. al.), and the Šibenik-Knin County belongs to poorer counties in Republic of Croatia, considering GDP (by data from [www.dhz.hr](http://www.dhz.hr)). Considering that entrepreneurial intention and its antecedents differ between developing and developed countries (Iakovleva, Kolvereid, Stephan, 2011, 355), and that Republic of Croatia belongs to developing countries, recent findings show that the level of early-stage entrepreneurial activity is usually higher in developed countries (Bosma, Levie, 2009). Furthermore the economic environment in developing countries is characterized as less stable and very turbulent. This directly effects graduates in choosing their careers in developing countries, because they cannot expect the same demand for salaried employees as in developed countries (Jones et al., 2008; Tkachev, Kolvereid, 1996).

Therefore the aim of this study is to identify motivational factors for undergraduates of business studies for entrepreneurial intention. The empirical research was carried on with 19 motivational items for entrepreneurs and survey information were collected from 53 students of sixth semester of Department of Management Undergraduate Professional Study in Šibenik.

## 2. Motivational variables

Theories of motivation in the entrepreneurship literature has progressed from static, content – oriented theories to dynamic, process – oriented theories (Campbell et al., 1970.). Gilad and Levine (1986) explain entrepreneurial motivation by “push” and “pull” theory. The “push” theory assumes that individuals are pushed into entrepreneurship by negative external forces (job dissatisfaction, difficulty finding employment, insufficient salary, or inflexible work schedule). While the “pull” theory argues that individuals are attracted into entrepreneurial activities by various desirable outcomes such as: seeking independence, self-fulfillment, wealth. It is important to emphasize that individuals become entrepreneurs primarily due to “pull” factors, rather than “push” factors (Orhan and Scott, 2001). Furthermore it is also important to identify the situational and environmental factors that predict entrepreneurial activity.

There are numbers of motivational variables which develop the intention of students to create his/her venture. These variables can be categorized into demographic variables and psychographic variables (Tanveer et al., 2013, 264). These variables include risk taking ability, locus of control, tolerance for ambiguity, and the level of control on him, but also to get Monterey rewards and benefits, to become own boss and have more control on his own destiny, and to get new venture success by inserting his efforts (Ashley-Cotleur *et al*, 2009; Benzing et al, 2007). Although it is difficult to demonstrate all motivational variables for students, Tanveer et al. (2013) highlight the following: **role models** (teachers, friends, social networks), **innovations** (students, who studied the entrepreneurship courses, become more innovative and have more desire to become entrepreneurs as compared to other students), **government** (although government policies have positive role in promoting entrepreneurial activities, still- it is hard to measure the impact of these policies on student motivation to become entrepreneur), **the need for achievement** (Students, who have high level of need for achievement, are more likely to choose entrepreneurship), **desire for independence** (Students, possessing high desire for independence, show better chances to be an entrepreneur.), **risk-taking** ability (it is considered to be a primary element of entrepreneurship since entrepreneurs are supposed to take different risks, like financial, social and family, psychological and physical risks), **desire for wealth** (monetary benefit is the primary source of motivation for most of entrepreneurs), **the degree of security for investment** (people will make more investment, as there

will be chances of profit), **self discovery and job satisfaction** (Individuals who run their business, feel confidence, self esteem, self of ownership, practicing control over others, and respect and honor which also motivate others to get same feelings), **entrepreneurial education** (Entrepreneurship education has been described as key factor in economic progress and the creation of jobs (Miller et al. 2009), although entrepreneurship education cannot avoid failure it can diminish the risk of failure (Katz, 2007). Basically, entrepreneurship education is about creating entrepreneurship competencies, which include knowledge, skills, and abilities (Markman 2007; Miller et al. 2009).), **family backgrounds of student** (also foster the attitude and intention for entrepreneurship. literature findings show that most of entrepreneurs come from mother or father business experience. Students, have family background of business and also familiar with real life business-show positive relations to be an entrepreneur), **The role of gender** (it is investigated that men have more desire and chances to become entrepreneur as compared to female).

The importance of analysis and research for factors influencing entrepreneurial intention among students can be explained on the basis that, according to Tong et al. (2011, 488), students represent the future contributors to any country's economy. While there are many precedent studies investigating the entrepreneurial intention of existing entrepreneurs, empirical studies on entrepreneurial intentions amongst students are inadequate (Tong et al., 2011, 488). In addition, motivational factors are varying by countries, regions, and cultures and these contextual factors influence the personal and psychological traits (Turker and Selcuk, 2009).

### 3. Methodology

This research includes undergraduate students of sixth semester of study from Department of Management, Undergraduate Professional Study in Šibenik. In Department of Management 125 students are studying. Probability sampling method is used to study the population. The 80 questionnaires were distributed and 53 were received. The questionnaire was designed through Five point likert scale with 1 stand for strongly disagree and 5 relate with strongly agree to determine the motivational factors for student to involve in entrepreneurship. There were some close ended questions to get demographic information of student. The research instrument was designed by considering the studies of Tanveer M.A., Zafar, S., Shafique R., Jhangir M., Rizvi S. (2013). SPSS statistics used to process the data in order to get results and information. The reliability test of the survey instrument was based on Cronbach's alpha and the alpha for motivational factors was very satisfactory = 0,896. To provide validation of accomplishment of factor analysis Keiser-Meyer-Olkin technique and Bartlett's test of Sphericity were used.

Principle component matrix and component matrix were used to found factor analysis. After this principle component analysis with varimax and Kaiser Normalization was used to get factor loading and communalities.

### 4. Results

The empirical research was carried on with 19 motivational items (to provide employment, to provide job security, to get Opportunities in the market, to Earn a reasonable living, to take advantage of my creative talent, for my own satisfaction and growth, to be my own boss, to realize my dream, for my personal freedom, to challenge myself, good economic environment, I enjoy taking risk, to invest personal savings, to use the skill learned in the polytechnic, entrepreneurial family culture, increase my prestige and status, follow the example of someone that I admire, enjoy myself, to maintain my family) for students to start and run their own business. Students were asked to give their opinion for the most important factors they consider for their motivation. Out of 53 interviewed students 96,23% of them is between 18 to 25 year old, 71,70% of them are females, 69,81% are students from Tourism management, and 54,72% of them have grade point average between 2,5-3,4 thus 7,55% of them have average grade point between 4,5-5 and 37,74% have grade

point average between 3,5-4,4. Keiser-Meyer-Olkin measure of sampling is 0.729 and Bartlett's Test of Sphericity was significant at .000 (table 1 and 2).

Based on descriptive statistic (table 3) it can be concluded that the factor which is most important for students to involve in entrepreneurial career is "to earn a reasonable living" with mean score 4,26, and to "maintain my family" with mean 4,42. It is also very interesting that no single factor is not rated more than 4,3, and that any factor for students does not represent a very strong motivator for starting a business. The lowest mean have factors: "Follow the example of someone that I admire" (2,51) and "Entrepreneurial family culture" (2,73). It indicates that students have no high motivation to become an entrepreneur, except for existential reasons. In addition to the above it could be also concluded that there is no positive entrepreneurial culture in students environment.

Motivational factors identified in table 4, based on the research, are: Factor 1 is labeled as "Investment opportunities and personal satisfaction" with percentage of variance 19,357 which is proposing that this factor is highly motivator for students. This factor is comprised of 7 items with factors loading more than 0,5 which are: for my own satisfaction and growth, good economic environment, I enjoy taking risk, to invest personal savings, to use the skill learned in the polytechnic, entrepreneurial family culture, increase my prestige and status, enjoy myself. The second factor is labeled as "Job security" with 15,530 percentage of variance this factor include 4 items: to get opportunities in the market, to earn a reasonable living, to provide employment, and to provide job security. The third factor is labeled as "Desire for independence", with 13,972 percentage of variance this factor include 3 items: to be my own boss, to realize my dream, for my personal freedom. The fourth factor is labeled as "Challenging Career" with 10,166 percentage of variance this factor include 2 items: to challenge myself, and I enjoy taking risk. The last fifth factor labeled as "Successful Entrepreneurial Role model", with 10,147 percentage of variance include 3 items: entrepreneurial family culture, follow the example of someone that I admire, to use the skill learned in the polytechnic.

**Table 1 Reliability Statistics**

Cronbach's Alpha	N of Items
,896	19

Source: research results

**Table 2 KMO and Bartlett's Test**

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		,729
Bartlett's Test of Sphericity	Approx. Chi-Square	542,676
	df	171
	Sig.	,000

Source: research results

**Table 3 Descriptive Statistics**

	N	Range	Minimum	Maximum	Mean		Std. Dev.	Variance
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic
To provide employment	53	3,00	2,00	5,00	4,1132	,12245	,89142	,795
To provide job security	53	3,00	2,00	5,00	4,0377	,12909	,93977	,883
To get Opportunities in the market	53	4,00	1,00	5,00	3,8491	,14100	1,02650	1,054
To Earn a reasonable living	53	3,00	2,00	5,00	4,2642	,11477	,83553	,698
To take advantage of my creative talent	53	4,00	1,00	5,00	3,8302	,13929	1,01405	1,028
For my own satisfaction and growth	53	4,00	1,00	5,00	4,1321	,11119	,80950	,655
To be my own boss	53	3,00	2,00	5,00	4,0755	,13156	,95774	,917
To realize my dream	53	4,00	1,00	5,00	3,7358	,15275	1,11201	1,237
For my personal freedom	53	4,00	1,00	5,00	3,8868	,13646	,99345	,987
To challenge myself	53	4,00	1,00	5,00	3,7925	,13566	,98759	,975
Good economic environment	53	4,00	1,00	5,00	3,1887	,14521	1,05715	1,118
I enjoy taking risk	53	4,00	1,00	5,00	2,9057	,12127	,88283	,779
To invest personal savings	53	4,00	1,00	5,00	2,9623	,16155	1,17608	1,383
To use the skill learned in the Polytechnic	53	4,00	1,00	5,00	3,5283	,13631	,99235	,985
Entrepreneurial family culture	53	4,00	1,00	5,00	2,7358	,17490	1,27326	1,621
Increase my prestige and status	53	4,00	1,00	5,00	3,1698	,16328	1,18866	1,413
Follow the example of someone that I admire	53	4,00	1,00	5,00	2,5094	,16957	1,23448	1,524
Enjoy myself	53	4,00	1,00	5,00	3,5472	,16290	1,18591	1,406
To maintain my family	53	3,00	2,00	5,00	4,2075	,12450	,90636	,821
Valid N (listwise)	53							

Source: research results

**Table 4 Rotated Component Matrix<sup>a</sup>**

	1	2	3	4	5	Communality
To get Opportunities in the market		0,771				0,792
To Earn a reasonable living		0,500				0,568
To take advantage of my creative talent						0,661
For my own satisfaction and growth	0,572					0,635
To be my own boss			0,694			0,662
To realize my dream			0,728			0,768
For my personal freedom			0,744			0,687
To challenge myself				0,842		0,825
Good economic environment	0,727					0,673
I enjoy taking risk	0,528			0,735		0,82
To invest personal savings	0,762					0,646
Entrepreneurial family culture	0,502				0,685	0,767
Increase my prestige and status	0,612					0,626
Follow the example of someone that I admire					0,630	0,662
Enjoy myself	0,730					0,685
To maintain my family						0,346
To provide job security		0,827				0,794
To use the skill learned in the polytechnic					0,765	0,778
To provide employment		0,802				0,747
Percentage of variance	19,357	15,530	13,972	10,166	10,147	

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization. a. Rotation converged in 9 iterations.

Source: research results

## 5. Conclusion and discussion

With cognition that entrepreneurship is the driving force for every country, with special emphasis to developing countries, it is necessary to motivate people through supporting environment to get involved in entrepreneurship. The findings of this research indicate that

undergraduates of Department of Management study don't have high motivation to become entrepreneurs, the motivational aspects of entrepreneurial intention include: Investment opportunities and personal satisfaction, Job security, Desire for independence, Challenging Career and Successful Entrepreneurial Role model. The results furthermore indicate that students recognize the entrepreneurial environment as positive and that they have desire to become entrepreneur. This proposes that it is necessary to policy makers to understand how important is to direct those desires into motives and finally into actions. Also, the universities and polytechnics must understand how important their role is. They have to provide entrepreneurial education in order to gain valuable and practical knowledge and information.

Limitations of this paper are reflected in the number of students included in this analysis. The sample size is just 53 students of sixth semester of study from Department of Management. Therefore, results of the study cannot be generalized for all Polytechnic of Šibenik. It should make comparison with other polytechnics and universities in the country and with other countries, to found out are there some important differences between different regions, economies, cultures and situations. In order to obtain quality information, this study should be converted into longitudinal study.

## REFERENCES

Ashley-Cotleur, C, King, S., Solomon, G. (2009): Parental and gender influences on entrepreneurial intentions, motivations and attitudes. [Online] Available: <http://usasbe.org/knowledge/proceedings/proceedings> Docs/USASBE 2003 proceedings-12pdf., in Tanveer M.A., Zafar, S., Shafique R., Jhangir M., Rizvi S. (2013): Motivational Factors and students Entrepreneurial Intention in Pakistan, Journal od Basic and Applied Scientific Research, 3(4) (pp. 263-269)

Benzing, C., Chu, H.M., McGee, C. (2007): Ghanaian and Kenyan enterprises: a comparative analysis of their motivations, success, characteristics and Problems. Journal of Development Entrepreneurship, 12(3):295-312., in Tanveer M.A., Zafar, S., Shafique R., Jhangir M., Rizvi S. (2013): Motivational Factors and students Entrepreneurial Intention in Pakistan, Journal od Basic and Applied Scientific Research, 3(4) (pp. 263-269)

Bosma, N. and Levie, J. (2009): "Global Entrepreneurship Monitor 2009 global report", available at: [www.gemconsortium.org/](http://www.gemconsortium.org/) (accessed 1 December 2010), in Iakovleva, T., Kolvereid, L., Stephan, U., (2011): Entrepreneurial intentions in developing and developed countries, Education and Training, Vol. 53., No. 5., Emerald, (pp. 353-370)

Campbell, C.A. (1992): "A decision theory model for entrepreneurial acts", Entrepreneurship Theory and Practice, Vol. 17 No. 1, (pp. 21-7.), in Segal, G., Borgia, D., Schoenfeld, S., (2005), The motivation to become an entrepreneur, International Journal Of Entrepreneurial Behaviour & Research (pp. 42-56)

Campbell, J.P., Dunnette, M.D., Lawler, E.E. and Weick, K.E. (1970): Managerial Behavior, Performance, and Effectiveness, McGraw-Hill, New York, NY., in Segal, G., Borgia, D., Schoenfeld, S., (2005): The motivation to become an entrepreneur, International Journal Of Entrepreneurial Behaviour & Research (pp. 42-56)

Finisterra do Paço, A., M., Ferreira, J., M., Raposo, M., Rodrigues, R., G., Dinis, A., (2011): Behaviours and entrepreneurial intention: Empirical findings about secondary students, Published online: 7 January 2011 Springer Science+Business Media, LLC 2011 (pp. 20-38)

Gilad, B. and Levine, P. (1986): "A behavioral model of entrepreneurial supply", *Journal of Small Business Management*, Vol. 24 No. 4, pp. 45-54. in Segal, G., Borgia, D., Schoenfeld, S., (2005): The motivation to become an entrepreneur, *International Journal Of Entrepreneurial Behaviour & Research* (pp. 42-56)

Iakovleva, T., Kolvereid, L., Stephan, U., (2011): Entrepreneurial intentions in developing and developed countries, *Education and Training*, Vol. 53., No. 5., Emerald, (pp. 353-370)

Jones, P., Jones, A., Packham, G. and Miller, C. (2008): "Student attitudes towards enterprise education in Poland: a positive impact", *Education & Training*, Vol. 50 No. 7, (pp. 597-614.) in Iakovleva, T., Kolvereid, L., Stephan, U., (2011): Entrepreneurial intentions in developing and developed countries, *Education and Training*, Vol. 53., No. 5., Emerald, (pp. 353-370)

Katz J., A. (2007): Education and training in entrepreneurship. In Finisterra do Paço, A., M., Ferreira, J., M., Raposo, M., Rodrigues, R., G., Dinis, A., (2011): Behaviours and entrepreneurial intention: Empirical findings about secondary students, Published online: 7 January 2011 Springer Science+Business Media, LLC 2011 (pp. 20-38)

Lordkipanidze, M., Brezet, H., Backman, M., (2004): The entrepreneurship factor in sustainable tourism development, [www.elsevier.com](http://www.elsevier.com) (accessed 13 May 2013)

Markman G., D. (2007): Entrepreneurs' competencies. In Finisterra do Paço, A., M., Ferreira, J., M., Raposo, M., Rodrigues, R., G., Dinis, A., (2011): Behaviours and entrepreneurial intention: Empirical findings about secondary students, Published online: 7 January 2011 Springer Science+Business Media, LLC 2011 (pp. 20-38)

Miller, B., Bell, J., Palmer, M., Gonzalez, A., Petroleum, P. (2009): Predictors of entrepreneurial intentions: a quasi-experiment comparing students enrolled in introductory management and entrepreneurship classes. *J Bus Entrep* 21(2):39–62, in Finisterra do Paço, A., M., Ferreira, J., M., Raposo, M., Rodrigues, R., G., Dinis, A., (2011): Behaviours and entrepreneurial intention: Empirical findings about secondary students, Published online: 7 January 2011 Springer Science+Business Media, LLC 2011 (pp. 20-38)

Orhan, M. and Scott, D. (2001): "Why women enter into entrepreneurship: an explanatory model", *Women in Management Review*, Vol. 16 No. 5, pp. 232-43.

Pruett, M., Shinnar, R., (2009): Explaining netrepreneurial intentions of university students: a cross-cultural study, *International Journal of Entrepreneurial Behaviour & Research*, Vol. 15, No. 6. (pp. 571-594)

Socio-ekonomski aspekti nezaposlenosti, siromaštva i društvene isključenosti, Vehovec, M., et. al., Projekt ekonomskog instituta Zagreb, 002-0022469-2462

Tanveer M.A., Zafar, S., Shafique R., Jhangir M., Rizvi S. (2013): Motivational Factors and students Entrepreneurial Intention in Pakistan, *Journal od Basic and Applied Scientific Research*, 3(4) (pp. 263-269)

Tkachev, A. and Kolvereid, L. (1999): "Self-employment among Russian students", *Entrepreneurship and Regional Development*, Vol. 11 No. 3, (pp. 269-80.) in Iakovleva, T., Kolvereid, L., Stephan, U., (2011): Entrepreneurial intentions in developing and developed countries, *Education and Training*, Vol. 53., No. 5., Emerald, (pp. 353-370)



Tong, X., F., Tong, D., Y., K., Loy., L., C. (2011): Factors influencing entrepreneurial intention among University students, *International Journal Of Social Sciences And Humanity Studies*, Vol 3, no 1, 1309-8063 (online) (pp. 487-496)

Turker, D., Selcuk, S, S. (2009): Which factors affect entrepreneurial intention of university students?, *Journal of European Industrial Training*, 33(2): (pp. 142-159)

Yosuf M., Sandu M. S., Jain K. K., (2007): Relationship between psychological characteristics and entrepreneurial inclination: A case study of students at university Tun Abdul Razak, *Journal of Asia Entrepreneurship and sustainability*, 3(2), pp. 12-19., in Tanveer M.A., Zafar, S., Shafique R., Jhangir M., Rizvi S. (2013): Motivational Factors and students Entrepreneurial Intention in Pakistan, *Journal of Basic and Applied Scientific Research*, 3(4)

**Dario Škegro, PhD.**

University of Zagreb faculty of Kinesiology  
Horvaćanski zavoj 15, Zagreb  
dario.skegro@kif.hr

**Prof. Zrinko Čustonja, PhD.**

University of Zagreb faculty of Kinesiology  
Horvaćanski zavoj 15, Zagreb  
zrinko.custonja@kif.hr

**Prof. Dragan Milanović, PhD.**

University of Zagreb faculty of Kinesiology  
Horvaćanski zavoj 15, Zagreb  
dragan.milanovic@kif.hr

## QUANTITATIVE ANALYSIS OF SPORT COACHES STATUS

### KVANTITATIVNA ANALIZA OPĆEG STATUSA SPORTSKIH TRENERA

#### ABSTRACT

*Defining the standards and norms of professional coaching work in sport requires a detailed analysis of a large number of indicators, including both the indicators of professional coaching activities and the general indicators of the status of the surveyed group of coaches. There is a lack of investigations of this type in Croatia so this research about sport coaches will provide better understanding and wider knowledge about this particular group of sport workers. The body of scientific and professional evidence related to the coaching profession is becoming increasingly important and, in most of top-level sports, makes the key difference in the success of the coaches and, consequently, in the success of the athletes and the teams which they coach. This paper brings the overview of the status of professional sport coaches in Zagreb describing this population.*

**Key words:** Sport coaches, training, status, general information

#### SAŽETAK

*Definiranje standarda i normativa rada profesionalnih trenera u sportu zahtjeva detaljnu analizu velikoga broja pokazatelja, uključujući pritom i pokazatelje radnoga opterećenja po različitim stručnim aktivnostima, ali i velikoga broja pokazatelja općeg statusa trenera u sportu. U Hrvatskoj postoji nedovoljan broj istraživanja ovoga tipa što znači da će ovo istraživanje doprinijeti boljem razumijevanju trenerskoga posla te proširivanju spoznaja o ovoj populaciji. Znanstvene i stručne spoznaje o trenerskom pozivu su danas sve važnije u većini vrhunskih sportova te čine ključne razlike u uspješnosti različitih trenera, a posljedično i uspješnosti sportaša u ostvarivanju vrhunskih sportskih dostignuća. U ovom radu prikazana je analiza pokazatelja općeg statusa profesionalnih trenera u Gradu Zagrebu.*

**Ključne riječi:** Sportski treneri, trening, opći status

## 1. Introduction

Coaching is an extremely complex, sensitive and responsible job. The competences and the knowledge required for the coaching job are very extensive, whether it involves coaching of the youngest age groups or national teams, and becoming more so by the day, both in terms of their scope and their quality. The body of scientific and professional evidence related to the coaching profession is becoming increasingly important and, in some top-level sports, makes the key difference in the success of the coaches and, consequently, in the success of the athletes and the teams which they coach. Defining the standards and norms of professional coaching work in sport requires a detailed analysis of a large number of indicators, including both the indicators of professional coaching activities and the general indicators of the status of the surveyed group of coaches. This paper examines various aspects of the general status of Zagreb sport coaches.

As compared to 2001, when the number of coaches employed and paid by the Zagreb Sport Federation was 65 and the number of the coaches employed and paid by sport clubs was 123 (Milanović et al., 2001), there has been a major surge in the number of coaches and today there is 400 professional coaches financed from the Programme of Public Needs in Sports of the City of Zagreb. The number of employed coaches by individual branches of sport varies dramatically, from only one employed coach (in bocce, free diving, diving, archery, bodybuilding and biathlon) up to 86 coaches (soccer) conducting professional activities in sport. This discrepancy is a consequence of differences in the popularity of different sports, the number of clubs and athletes, and the availability of different sports across the City of Zagreb, as well as the tradition, which refers to the historical factors of the conception and development of a particular sport branch. It is important to point out that the number of professionally hired, i.e. employed coaches in a particular sport branch is a significant success factor for the given sport (Bok et al., 2015).

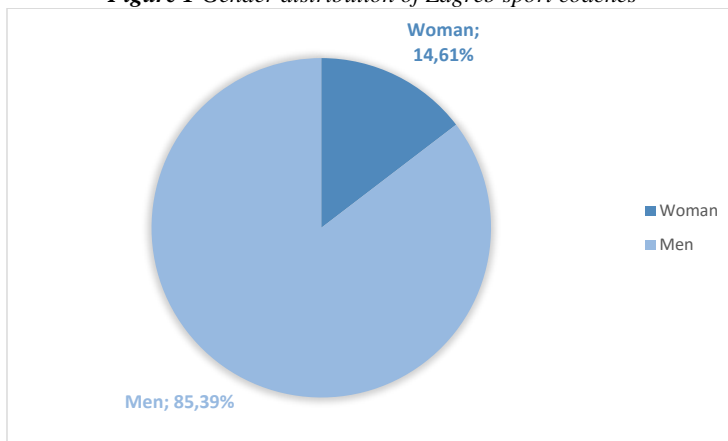
In Croatia, there have been few studies about sport coaches' status despite the specificities of the coaching profession. The status of coaches has not been clearly defined, described and evaluated.

## 2. Gender distribution of Zagreb sport coaches

Out of the total number of coaches included in the survey, the number of men whose salaries are paid out of the Programme of Public Needs in Sports of the City of Zagreb was 298 (85.39 %), while 53 (14.61 %) were women (figure 1). If these results are weighed against the results of the study "Coaches and Professional Work in Croatian Sport" (Čustonja, Jukić and Milanović, 2011), it becomes evident that Zagreb sport is significantly above the Croatian average of 6 % female coaches. It is interesting to note that the gender distribution of qualified coaches in Great Britain is similar to that in Zagreb sport, with 18 % of women and 82 % of men (Sports Coach, U. K., 2011). The results concerning the ratio of male and female coaches in Zagreb sport is, however, discouraging for women. National and international strategic documents aim to encourage women to engage in professional coaching work in larger numbers.

The fact that there is few women in coaching, even in sports that are expected to be female oriented, can be analysed in sociological context and try to find reasons why coaching is not so popular among this population. Factors that are influencing to this are assumptions that woman's competences in sport are lower than man's, employment is always in favour of men's coaches because of the principle of resemblance (there is more male coaches in sport), homophobia (woman that works in sport is to masculine) and there is significantly less number of woman's role models in coaching (Reade, Rodgers & Norman, 2009). Problems of female coaches are often related to sex discrimination that is specially emphasised in sport as male dominated area and the common opinion that coaching profession is not something that woman should do regarding to her role in society (Yook & Kim, 2013). Also, often athletes are negative toward female coaches and they rather cooperate with male coaches (Magnusen and Rhea, 2009). These are the reasons why female coaches should be included in the work with young (male) athletes in order to link them in the early stages of their sports career to decrease their preferences toward male coaches.

**Figure 1** Gender distribution of Zagreb sport coaches

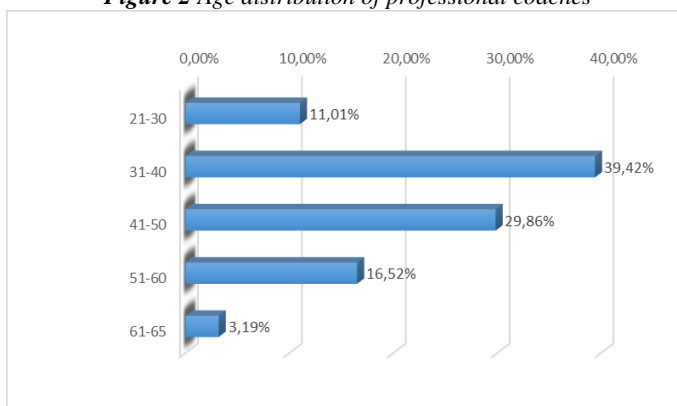


Source: Bok et al. 2015

### 3. Age distribution of employed coaches and distribution according years of service

The age indicators reveal a normal age distribution of coaches, with a slight bias towards the younger age groups. The average age of the employed sport coaches in Zagreb sport is 41. This is the age at which the coach has accumulated the required coaching experience and at which the coach has the optimum level of enthusiasm and energy to carry out a wide spectrum of coaching activities. Over 80 % of the coaches employed in Zagreb sport are younger than 50. Considering that the largest number of coaches belongs to the age group 31-40, it may be stated that the age structure of Zagreb coaches is satisfactory. Age structure of Zagreb sport coaches is similar to the age structure of sport coaches in United Kingdom where more of 70% coaches is in 16 – 54 years range having in mind that different system of education for coaches implies that there is possibility to perform some coaching work after high school (SportsCoach, U.K., 2011).

**Figure 2** Age distribution of professional coaches



Source: Bok et al. 2015

The average number of years of service of the employed coaches in Zagreb sport is 14. This information on the average period of service in sports points to a high level of confidence in performing the job, since the coaches with the average number of years of service have acquired the

necessary level of skills and, through lifelong learning, professional knowledge that qualifies them to successfully carry out the coaching work.

**Table 1** *Distribution of professional coaches according to years of service*

Years of service	Number of coaches	%
0-5	67	19,09%
6-10	83	23,65%
11-15	80	22,79%
16-20	60	17,09%
21-25	18	5,13%
26-30	26	7,41%
31-35	3	0,85%
36 and more	12	3,42%

*Source: Bok et al. 2015*

The information in the table 1 refers to the total number of years of service of the surveyed coaches, whereas the number of years of service in Zagreb sport for the surveyed coaches is significantly smaller. It is important to note that the number of years of service for 42.74 % of the surveyed employed coaches was below 10. That means that sports clubs and sports associations frequently choose to employ qualified coaches, often top athletes who have completed the necessary training.

#### **4. Distribution of the employed coaches according to professional sport qualification**

The Sports Act passed in 2006 defines the coach for the first time in Croatia as the person who programs and implements sport preparation, organises recreational sport activities and gives sports lessons. The Act prescribes the bachelor degree as a minimum qualification requirement for the job. In other words, a person interested in carrying out professional coaching work in sports should have completed at least a 3-year (6-semester) professional study programme leading to a professional bachelor degree in coaching.

The Sports Act also makes provisions for other profiles eligible to conduct coaching work: a person who has received training under a licensing programme of a world or European umbrella sport organisation; a person who has won a medal at the Olympics or at a senior world or European championship and has received training at an institution providing education and training for sports professionals; and a person who had carried out coaching work for a minimum of 15 years prior to the passing of the Sports Act (2006) and has received training at an institution providing education and training for sports professionals.

The Sports Act sets out a general structure of the work of sport professionals. Pursuant to Article 59, Item 1 of the Sports Act, professional work in sports includes:

- 1) programming and implementing sports preparations;
- 2) programming and implementing sports education of children and youth in sport schools;
- 3) programming and implementing sporting recreation;
- 4) programming and implementing extracurricular school sporting activities; and
- 5) teaching the basic technique of a specific sport.

This is, however, a very general and basic classification of professional work in sports. Such a classification can only be justified if the policy-maker has foreseen the adoption of a special ordinance on professional qualification and professional training required for carrying out professional work in sports, according to the type and complexity of the work (Sports Act, Official Gazette 71/06, Art. 60, Item 5).

A very positive indicator is the proportion of qualified sport coaches employed by the Zagreb Sport Federation. Namely, SSGZ hires 87.74 % sport coaches who are, in accordance with the Sports Act, qualified to work in sport. Unqualified coaches account for 12.25 % of the total number of the employed coaches. This attests to a sound employment and financial policy of the Zagreb Sport

Federation with respect to the coaching staff. This becomes even more evident if these percentages are set against the data on the national level. In the Republic of Croatia, 37.2 % of the coaches who carry out professional work in sport do not hold the required qualification for the job, while 62.8 % of the coaches are qualified (Čustonja, Jukić, Milanović, 2011). Although this study covered a smaller sample of subjects, it may be concluded that Zagreb athletes are largely coached by qualified coaches.

**Table 2** *Qualification degree of professional coaches*

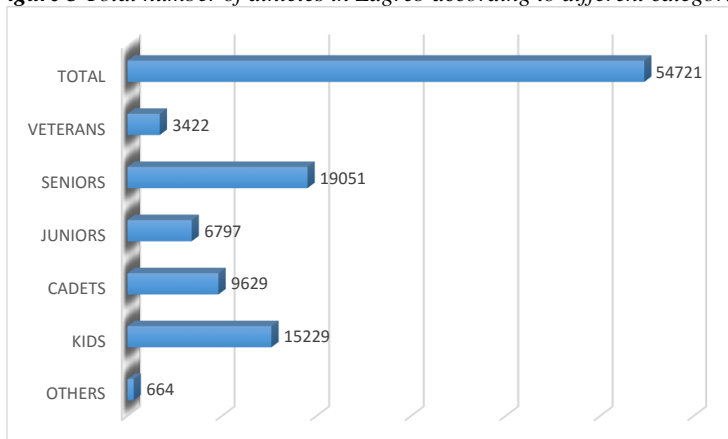
Qualification	Number of coaches	%
PE Teacher	132	37,61%
Master coach	39	11,11%
University bachelor	5	1,42%
Professional bachelor	59	16,81%
Training course	73	20,80%
University study in progress	3	0,85%
Professional study in progress	30	8,55%
Training course in progress	10	2,85%
<b>Total</b>	<b>351</b>	<b>100%</b>

Source: Bok et al. 2015

## 5. Distribution of the employed coaches according to age groups that they coach

According to the administrative data of the city sports associations and the data of the Zagreb Athletes Registry (Figure 3), there are 54,721 athletes currently in Zagreb. There are significant differences between sports in terms of the number of athletes they gather. Soccer is far ahead with 18,411 athletes, whereas over 1,000 athletes train track and field, gymnastics, wrestling, sports for people with disabilities, karate, ice skating, basketball, volleyball, swimming, handball and taekwondo. Among the registered athletes, the most numerous age category is the senior category, which accounts for 19,051 athletes, followed by children and sports schools, with 15,229 athletes. These numbers testify to a satisfactory number of athletes, but a further growth in the number of athletes of all age categories should continue to be encouraged by means of strategic documents and programmes for the development of sports in Zagreb.

**Figure 3** *Total number of athletes in Zagreb according to different categories*



Source: Bok et al. 2015

The analysis of the coached age groups in Zagreb sport revealed that the large proportion of coaches works with multiple age groups. Out of the total number, over a half of the coaches' work with children in sports schools (51%). The largest percentage of the employed coaches works with the 14-16 age groups (64.47 %), suggesting that the work with this age group generates a major proportion of the annual workload. That also means that the 14-16 age group can be considered vital in the long-term sport preparation, both from the selection and sport actualisation viewpoints. Whereas the number of coaches engaged in work with 16-18 age groups amounts to 52.72 %, the number of coaches working with over 18 is 43.39 %. The percentage of Zagreb coaches working with only one age group is the largest (39.60 %). It may be assumed that this percentage largely involves the coaches working with seniors. However, over 60 % of the coaches work with multiple age groups, with percentages amounting to 21.68 %, 23.70 % and 15.03 % for coaches working with two, three and four age groups, respectively.

**Table 3** Number of professional coaches working with different age groups

Age group	% YES	% NO
<b>Under 14</b>	51%	49%
<b>14-16</b>	64,47%	35,53%
<b>16-18</b>	52,72%	47,28%
<b>Over 18</b>	43,39%	56,61%

Source: Bok et al. 2015

**Table 4** Professional coaches working with one or more different age groups

Number of age categories	Number of coaches	%
<b>1</b>	137	39,60%
<b>2</b>	75	21,68%
<b>3</b>	82	23,70%
<b>4</b>	52	15,03%
<b>Total</b>	346*	100%

\* Five coaches did not answered to this question

Source: Bok et al. 2015

## 6. Working weekends and using annual leave by the employed Zagreb coaches

Professional coaches have a few days off in their work and that is why they are often emotionally and physically stressed. These constraints can lead to emotional and physical exhaustion with negative consequences for private life of sport coaches, training process and, consequently for sport result of his athletes (Altfeld & Kellmann, 2013). Recent studies showed that the lack of rest very often leads to the states of physical and emotional exhaustion, so called "burnout" (Altfeld & Kellman, 2015). In addition, large number of working hours and uncontrolled schedule of working hours affects to emersion of work-family conflict (Pitney, Mazerolle & Pagnotta, 2011). Work-family conflict occurs when family obligations could not be fulfilled because of work and it can lead to decreased efficiency at work. Besides large number of working hours, other factors are high demands in coaching work, numerous business trips, inflexible working hours and lack of coaching staff (Mazerolle, Bruening & Casa, 2008). If there is a prompt reaction to reduce listed factors, this negative situations can be avoided (Mazerolle, Pitney, Casa & Pagnotta, 2011).

The results of the survey show that the majority of the surveyed coaches work weekends, using equally both Saturday and Sunday to work. About 38 % of the coaches' work more than 80 % of the weekends and as many as 66 % of the coaches work 60 % of Saturdays and Sundays. This suggests that most coaches are busy during the weekend and that they probably do not have a day off over a period of several weeks. The competitions in most sports are held during the weekend, so it is not surprising that most coaches work Saturdays and Sundays, accompanying their teams in competitions.

Participating in competitions frequently involves long trips, especially if the competition is held abroad.

**Table 5** Working weekends of professional coaches

Number of days	Saturday %	Sunday %
<b>0</b>	1,21%	1,25%
<b>1-10</b>	8,87%	9,17%
<b>11-20</b>	7,26%	7,08%
<b>21-30</b>	16,13%	16,67%
<b>31-40</b>	27,02%	26,25%
<b>41-52</b>	38,71%	37,92%

Source: Bok et al. 2015

The results also point to the fact that professional coaches use their right to annual leave rarely or not at all. About 22 % of the coaches had not been using their annual leave and as many as 58.2 % of the coaches had only partially used their annual leave days. Considering the fact that many coaches also work most weekends, it becomes apparent that some coaches are continually overloaded with their professional coaching responsibilities. Such an overload can lead to a state of emotional and physical exhaustion of the coach, which can consequently negatively affect the results of the athletes.

**Table 6** Use of annual leave by professional coaches

Annual leave weeks	Number of coaches	%
<b>0</b>	76	21,78%
<b>1</b>	15	4,30%
<b>2</b>	57	16,33%
<b>3</b>	55	15,76%
<b>4</b>	127	36,39%
<b>5</b>	10	2,87%
<b>6</b>	9	2,58%

Source: Bok et al. 2015

## 7. Conclusions

The forty one sports covered by this study differ in the level of organisation, the development of their sport infrastructure, the number of athletes, the sport results, the revenues and expenditures, the number of the employed coaches, the level of education of the employed coaches, and many other parameters.

The sport coach, drawing on the general information on the status of the coach, is predominantly male, 41 years old, has the required professional qualification and works with a large number of athletes and groups and with different age groups. The coach works weekends and, in most cases, does not use the annual leave.

Information's provided by this investigation are very important in defining the profile of sport coaches. Further work in this field is going to assure new knowledge and provide new medals, new sport venues and contribution to the development of sport sensitive society.

## REFERENCES

Bok, D., Čustonja, Z., Hrženjak, M., Krističević, T., Matić, I., Milanović, D., Ricov, J., Šalaj, S. i Škegro, D. (2015). Pedagoški standardi i normativi rada trenera u sportu. Zagreb: Sportski savez Grada Zagreba i Sveučilište u Zagrebu Kineziološki fakultet.



Čustonja, Z., Jukić, I., Milanović, D. (2011). Treneri i stručni poslovi u hrvatskome športu (neobjavljeni dokument Nacionalnog vijeća za šport).

Sports Coach, U. K. (2011). Sports coaching in the UK III: A statistical analysis of coaches and coaching in the UK. *Leeds: Sports Coach UK*.

Milanović, D.(ur.) (2001). Stanje i perspektive zagrebačkog sporta. Zbornik radova stručnog skupa „Stanje i perspektive zagrebačkog sporta“, Zagreb, 23. i 24. veljače 2001. Zagreb : Fakultet za fizičku kulturu Sveučilišta u Zagrebu.

Reade, I., Rodgers, W. & Norman, L. (2009). The under-representation of women in coaching: A comparison of male and female Canadian coaches at low and high levels of coaching. *International Journal of Sports Science & Coaching*, 4(4), 505-520.

Yook, Y. & Kim, J. (2013) The perspective of female coaches' sex role and the direction of future policy. *Korean Society of Sport Policy*, 11(3), 1-20.

Magnusen, M.J. & Rhea, D.J. (2009). Division I athletes' attitudes toward and preferences for male and female strength and conditioning coaches. *Journal of Strength and Conditioning Research*, 23(4), 1084-1090.

Republic of Croatia (2006) Sports Act. Narodne novine (Official announcement publication), 71/06 (150/8, 124/10, 124/11, 86/12, 94/13, 85/15)

Altfeld, S. & Kellmann, M. (2013). Burnout in coaches: A review. *Zeitschrift fur Sportpsychologie*, 20(2), 47-58.

Altfeld, S. & Kellmann, M. (2015). Are German coaches highly exhausted? A study of differences in personal and environmental factors. *International Journal of Sports Science & Coaching*, 10(4), 637-654.

Pitney, W.A., Mazerolle, S.M. & Pagnotta, K.D. (2011). Work-family conflict among athletic trainers in the secondary school setting. *Journal of Athletic Training*, 46(2), 185-193.

Mazerolle, S.M., Bruening, J.E. & Casa, D.J. (2008). Work-family conflict, part I: Antecedents of work-family conflict in National Collegiate Athletic Association Division I-A certified athletic trainers. *Journal of Athletic Training*, 43(5), 505-512.

Mazerolle, S.M., Pitney, W.A., Casa, D.J. & Pagnotta, K.D. (2011). Assessing strategies to manage work and life balance of athletic trainers working in the National Collegiate Athletic Association division I setting. *Journal of Athletic Training*, 46(2), 194-205.

**Andreja Švigir, M.Sc.**

Altius savjetovanje d.o.o.

I.B.Mažuranić 24

10090 Zagreb - Susedgrad

Phone: 099-319-23-67

E – mail address: andreja.svigir@altius.hr

**Associate professor Ivana Mamić Sačer, PhD.**

Faculty of Economy, Zagreb

Trg J. F. Kennedyja 6

10 000 Zagreb

Phone: 01/2383-126

E – mail address: imamic@efzg.hr

## **NON-FINANCIAL REPORTING IN CREATION OF AN INTEGRATED REPORTING SYSTEM**

### **NEFINANCIJSKO IZVJEŠTAVANJE U IZGRADNJI INTEGRALNOG SUSTAVA IZVJEŠTAVANJA**

#### **ABSTRACT**

*The business world has always been a stage for various events that made a significant impact on the entire society. An uncontrolled growth of multinational companies, as well as the events on the financial markets, has pushed the capitalist system to its limits, which sadly showed that the system too often cared for the welfare of the certain influential circles only. Therefore, the public pressure and demands for the more transparent business operations of the multinational companies have grown significantly.*

*The first conference on integrated reporting held in 2011 in Rotterdam, where in addition to the International Integrated Reporting Council, over 80 companies and 25 investors took part, indicated the need for developing the higher quality reporting systems. The Council was formed with the purpose of helping the stakeholders to make better corporate decisions based on the integrated financial and non-financial sets of reports. The mission of this Council is to create an internationally accepted framework that would inform the public on the strategy, management, results and goals of the company businesses in a clear, summarized and comparable way that should influence the quality of the corporate reporting. The rules of such form of reporting are currently being established within the Global Reporting Initiative. The aim of the Initiative is to create the rules of reporting that would inform the public about the managerial philosophy, promoted by the owners and the management, and their intention to create, in addition to financial, also a social capital. By disclosing non-financial information, the company is making an important step in informing all the stakeholders and making the management transparent and reliable.*

*The Global Reporting Initiative offers a mature methodology that provides the preparation of the social accountability reports. The social accountability, particularly in the international business environment, is the key quality factor in business operations, not only in achieving profitability, but also in building the society as a whole.*

**Keywords:** social responsibility, non-financial reporting, Global Reporting Initiative, corporate decision making, quality of business activity

## SAŽETAK

*Poslovni svijet oduvijek je bio poprište raznih događaja koji su značajno utjecali na cjelokupnu društvenu zajednicu. Nekontrolirani rast multinacionalnih kompanija kao i događaji na financijskim tržištima doveli su do ruba kapitalističko društveno uređenje koje je na žalost pokazalo da prečesto ima za cilj dobrobit samo određenih interesno-utjecajnih skupina. Stoga, pritisci javnosti i zahtjevi za transparentnijim poslovanjem multinacionalnih kompanija postaju sve intenzivniji.*

*Prve konferencije o integriranom izvještavanju koja je 2011. godine održana u Rotterdamu, a na kojoj je osim međunarodnog Vijeća integriranog izvještavanja, sudjelovalo više od 80 poduzeća i više od 25 investitora ukazala je na potrebu razvoja kvalitetnijeg sustava izvještavanja. Vijeće je sazvano s ciljem pomoći interesno-utjecajnim skupinama u donošenju kvalitetnijih poslovnih odluka, a koje bi se temeljile na integriranom financijskom i nefinancijskom setu izvještaja. Misija ovog Vijeća je stvoriti međunarodno prihvaćen okvir koji bi javnosti pružao važne informacije o poslovanju poduzeća kao što su informacije o strategiji, upravljanju, rezultatima i ciljevima na jasan, sažet i usporediv način, a što bi utjecalo na kvalitetu korporativnog izvještavanja. Pravila ovakvog načina izvještavanja za sada su prikazana u okviru Globalne Inicijative za Izvještavanje (Global Reporting Initiative). Inicijativa ima za cilj propisati pravila izvještavanja koja bicjelokupnu javnost informirala o „filozofiji“ upravljanja koju vlasnici i menadžment promiču u poduzeću kao i njihovoj namjeri da uz financijski stvaraju i socijalni kapital. Objavljivanjem nefinancijskih informacija poduzeće čini vrlo važan korak u informiranju svih zainteresiranih strana, a upravljanje čini transparentnim i pouzdanim.*

*Globalna inicijativa za izvještavanje pruža razvijenu metodologiju koja osigurava pripremu izvještaja o društvenoj odgovornosti. Društvena odgovornost, osobito u međunarodnim uvjetima poslovanja ključan je čimbenik kvalitete poslovanja ne samo s ciljem ostvarivanja poslovnog rezultata već i s ciljem izgradnje cjelokupne društvene zajednice.*

**Ključne riječi:** društvena odgovornost, nefinancijsko izvještavanje, globalna inicijativa za izvještavanje, donošenje poslovnih odluka, kvaliteta poslovanja

## 1. Introduction

An integrated way of viewing business, which was recently imposed as a fundamental corporate requirement in a complex market environment, required an integrated reporting system. Such a reporting system implies a management system where the financial goals are complemented with the goals of sustainable development and socially responsible business operations. The goals set in such a manner are aimed at prosperity of all stakeholders, including the wider social community. The traditional reporting system provided by the accounting information system is changing in accordance with the changes in the environment, where its primary focus, i.e. financial focus, is being supplemented with non-financial reporting. Non-financial reporting has only recently been established in practice, and at the same time, the integrated reporting system is underrepresented in professional literature. This was confirmed by the fact that the first integrated report has been published no sooner than in March 2016. By taking into account the aforementioned, the main objectives of this research have been set as follows:

- to examine the impact of different stakeholders' goals on the new requirements to be met by financial reporting,

- to analyse the main differences between the financial and non-financial reporting and
- to establish the level of development of the integrated reporting system.

## 2. Stakeholders' impact on creation of integrated reporting

The business world has always been a stage for various events that made a significant impact on the entire social community. An uncontrolled growth of multinational companies, as well as the events on the financial markets, have pushed the capitalist system to its limits and revealed its numerous limitations and failures. One of them is the lack of clear and high-quality supervision over the operations of the multinational corporations. The shortcomings in supervision have often resulted in satisfying only one segment within the entire group of stakeholders<sup>1</sup>. The consequences of such company management, but also the consequences of the shortcomings in the supervision of the company business operations are reflecting on the global market. All of the aforementioned resulted in development of a new approach to company management, known as the stakeholder approach. The main idea of this approach is to balance the company objectives with the demands of all stakeholders, whose interests may be both, similar and different.

The stakeholders have many different characteristics. One of the most important criteria for distinguishing the stakeholders is their interest in the company operations, which is highly correlated with the amounts invested in the company, i.e. with the risk associated with the investment. Therefore, according to Hellriegel, Jackson, Slocum (Hellriegel, Jackson and Slocum, 2005) they are divided into primary and secondary stakeholders. The primary stakeholder group includes: **owners, management board, employees, customers and suppliers**. This group also often includes the big company creditors. Although their objectives may be conflicting, they still represent a group of stakeholders whose interests, i.e. goals, are direct and clear. The secondary stakeholder group includes: **end consumers, competition, state, supervisory bodies, including the public as a whole**. In spite of the clarity of their objectives in relation to the company, their objectives are described as indirect.

According to Sisek and Strahonja (Sisek, Strahonja, 2012) the main characteristics of the stakeholder approach refer to achieving the social and economic cohesion, which is manifested in reciprocity and inclusion for all. The key value of the stakeholder approach is inclusion. Relying on these universal ideas, the stakeholding implies equal opportunities and not equal results for everybody. The purpose of the social and economic inclusion is not only to achieve the social justice and security, but also to point out the possibility that individuals, acting together, may influence the forces forming the society. Accordingly, in its final consequence, the stakeholding must lead to changes in the culture and in the manner of thinking of individuals.

Through their interests and actions, the stakeholders are deliberately or unconsciously influencing the company business operations and reporting, which is thus becoming more transparent, by explaining not only the achievements important to the stakeholders who are

---

<sup>1</sup>Stakeholders are all those individuals or groups inside and outside of the company, who are in any way connected with the company and interested in its business operations.

directly interested in the company business, but also by presenting the information important for decision-making of those who are indirectly interested in the company performance.

The main division into the primary stakeholders and the secondary stakeholders is not sufficient to explain the complexity of relationships between these groups, and also within each group. Apart from the general goal which is the same for everybody and refers to the wish that the company performs well, there are also partial goals which are conflicting and which are often the subject of dispute. The owners are interested in a dividend, the managers are interested in the profit on the basis of which they are awarded their bonuses, and the employees are interested in high and regular income, while the customers and suppliers take interest in the longevity of the company they cooperate with. Clearly, achieving the general goal, which is the company performance, i.e. profit, has a direct influence on achieving the partial goals within the group of the primary stakeholders. However, not every member of the primary stakeholder group is equally interested in achieving this goal, since they do not equally benefit from achieving it.

The company management board, as first among equals in their desire to achieve the general goal of the company, which directly influences the achievement of their partial goal – the bonus, often reach for dubious actions, especially in marginal, obscure and unclear areas of valuating the positions in financial reports, aimed at highlighting good performances and hiding or diminishing the meaning of everything that was or might have been considered as underachievement. Milton Friedman believed that the only goal of the management board was to satisfy the interests of equity holders.

According to Donaldson and Preston (Donaldson and Preston, 1995) the stakeholder theory might be presented in a variety of ways that are quite different among each other and include different methodology, different ways of providing evidence, and also different evaluation criteria. They emphasise the three important approaches in studying the stakeholder theory: descriptive, i.e. empirical theory describing and clarifying the specific corporate characteristics, which are causal and which significantly influence the management style, as well as the management style affects them; instrumental theory that tries to identify and describe the connection or the absence of connection between the management and the traditionally set goals such as the growth, profitability, and similar; and finally, the normative theory, which is important for interpreting the role played by corporations in creation and implementation of the moral and even philosophical judgements of the management board in making their business decisions. All three approaches include a clear responsibility of the managers, whose management style directly affects the business climate in which the traditionally set goals will be achieved. However, one must emphasise that sustainable management requires a management framework containing balanced goals. Therefore, a new paradigm of an integrated management has been developed, emphasising the role of the management in creation of the socially responsible environment. The integrated management, as pointed out by Dalling (Dalling, 2007) may be understood as the management process designed to equally satisfy the needs and expectations of all stakeholders, including the most efficient use of all of the available resources. In line with the above, the reporting system changes in accordance with the aforementioned changes of the stakeholders' requirements that could be properly satisfied by the integrated reporting system, which apart from financial reporting, puts a special emphasis on non-financial reporting.

### **3. Analysis of the main characteristics of financial and non-financial reporting**

Reporting to stakeholders in today's business conditions becomes increasingly demanding. A special requirement refers to transparency in interpretation of volatile business events and presenting them to the general public. Financial reports created as the final product of financial reporting represent an important source of information for corporate decision making. Without

financial reports it would be almost impossible to assess the company performance, as well as its financial position and cash flows. A long tradition of financial reporting resulted in establishing the international standards of financial reporting, which contain the set of rules for creating financial reports. Although primarily aimed at presenting quantitative information, financial reporting is still partly aimed at providing non-financial information. These are presented in notes accompanying financial reports, providing explanation for the quantitative information presented in financial reports. In making their business decisions, the stakeholders rely primarily on financial information. For this reason, the financial information are created and presented with the most care and attention. However, due to the same reason, financial reporting is often subject to manipulation. According to Graham, Harvey and Rajgopal (Graham, Harvey and Rajgopal, 2004) the majority of users of financial reports consider the measure of company performance to be expressed through profit rates and earnings per stock. The interviewees in their survey<sup>2</sup> view these two metrics as more important even than cash flows. The research has also shown that the companies are ready to sacrifice their economic value in order to meet their short-term objective - the earnings target, and thus avoid the negative market reactions in case of missing the earnings target. This is also the reason for 78% of surveyed managers showing the tendency towards the “smooth earnings”, while 55% of them would be prone to cancelling a successful project, if it meant a decrease in the quarterly earnings target. Nevertheless, financial reporting remains an important form of communication between companies and stakeholders for the two key reasons:

- Financial reporting is stipulated by law, which creates certainty that the financial reports were drafted truthfully and fairly
- Financial information are easily understood and interpreted through the key performance indicators

Non-financial reporting or reporting on socially responsible business operations is a new concept of reporting to stakeholders, which started to develop more intensely in the 90s of the last century. Its development was conditioned by shortages of the financial reporting information, which the stakeholders needed for making business decisions. Ditlev-Simonsen (Ditlev-Simonsen, 2010) stated that the first non-financial report was presented in 1989. It was presented by the German chemical firm BASF, one of the FT500 – the world’s largest companies. The majority of the non-financial reports in the early years of their presentation used the word “environment” in their titles, which was subsequently replaced by the term “responsibility“, i.e. “sustainability”. The word “responsibility” was first used in the report drafted by the American pharmaceutical and biotechnology company Johnson & Johnson. Therefore, it is obvious that the first non-financial reports were primarily aimed at reporting about the environment, while subsequently introducing additional meaning into this term by referring to responsibility, and later on, to sustainability. The terminology development itself showed an increase in scope, as well as in the content to be presented.

The guidelines of the Global Reporting Initiative<sup>3</sup>, indicate the broadness of the sustainability concept. It is considered equal with the other terms used in reporting on economical, environmental and social impacts. One of these terms is known as a triple bottom line reporting or reporting on corporate social responsibility. This is a holistic approach to corporate reporting on

---

<sup>2</sup>The survey included over 400 CFO's. Additional 20 in-depth interviews were conducted within the survey.

<sup>3</sup>Guidelines of the Global Reporting Initiative were issued by the international independent organisation (Global Reporting Initiative) that helps businesses, governments and other organisations in reporting, but also in understanding the impact of business on the entire social community.

business operations, which, apart from the certain financial information, offers a variety of non-financial information important for corporate decision making.

The triple bottom line reporting is aimed at three units, which are all very important individually, but only when considered together are they able to present the whole picture of the company business. According to the guidelines of the Global Reporting Initiative these are:

- Financial report presenting information on the company performance, financial position and cash flows,
- Environmental report referring to protection, pollution and use of the natural resources and
- Social report referring to the company impact on employees, business partners, consumers, etc.

The main objective on non-financial reporting is to provide a balanced presentation of the company business, but also of the company's impact on its environment, including the internal processes, regardless of whether their contributions are positive or negative. In spite of the importance of non-financial reporting, it is still insufficiently represented in corporate reporting. Namely, due to this reason one has the impression that the management board still has a wish to "withhold" the information not speaking in their favour.

In the Republic of Croatia financial reporting is regulated by the Accounting Act, prescribing a mandatory implementation of the accounting standards. Financial reporting is further formalised by the Ordinance on the structure and contents of financial reports. On the other hand, non-financial reporting has no legally prescribed framework, but its structure and content is prescribed by the guidelines of the Global Reporting Initiative<sup>4</sup>. An absence of legal obligation prescribing non-financial reporting enables the companies to avoid the presentation of or minimize the information that could damage the company's reputation and turn away the potential partners. The mission of the Global Reporting Initiative is to enable decision makers to create high-quality business reports and consequently make high-quality business decisions. Although non-financial reporting guidelines represent an important step in development of non-financial reporting methodology, in future it will be important to shift towards the development of non-financial reporting standards. A significant role in these developments will be played by the stakeholders, who will, due to their desire to receive more corporate information, which they could not get access through financial reporting, raise awareness on the importance of the global objectives that the entire society aspires towards. The Global Reporting Initiative encourages reporting in line with the guidelines, regardless of the company size or ownership structure, or whether the company was recently founded or has been on the market for some time, and finally, regardless of whether the company has any experience in non-financial reporting or has just decided to introduce it. The benefits that the companies would have as a consequence of development and improvement of non-financial reporting would manifest through the confidence invested in them by all of their potential partners, as well as their investors, which would provide them with easy access to capital. Furthermore, there is loyalty of their employees, resulting in improved performance and reduced fluctuation, which directly affects a decrease in costs and higher corporate profits. All of the aforementioned has a direct impact on the company's competitive advantage. Therefore, the development of non-financial reporting standards that would be mandatory for all companies, would not only provide high-quality communication with the stakeholders, but also indicate the changes that must be implemented within the company.

---

<sup>4</sup>GRI is an international independent organization that helps businesses, governments and other organizations understand and communicate the impact of business on critical sustainability issues such as climate change, human rights, corruption and many others.

Non-financial reporting methodology offered within the guidelines of the Global Reporting Initiative consists of the two parts:

- Reporting principles and reporting instructions, and
- Standard disclosures.

The reporting principles consist of the two parts as follows:

- principles referring to defining the **contents**, i.e. topics and indicators to be reported, and
- principles ensuring the **quality** in the manner of presenting the information disclosed by the company.

The reporting principles also comprise the reporting instructions with the view of establishing the limits of a report.

The standard disclosures include: profile, management approach and performance indicators.

#### **4. Developing integrated reporting aimed at high-quality decision making**

The integrated reporting that would contain both, financial and non-financial reporting has a great importance in corporate decision making. The development of such reporting would include the standards of financial reporting, as well as the standards of non-financial reporting. The final goal is to make such reporting mandatory for all companies, with the scope of reporting depending on the company size and significance.

The International Integrated Reporting Council<sup>5</sup> held its first conference, i.e. the integrated reporting pilot programme, in October 2011 in Rotterdam. The pilot programme was attended by numerous business people, including the investors. The conference was held with the purpose of collecting feedback from the business world, to be used in construction and improvement of the integrated reporting system. The goal of the integrated reporting is a cohesive and efficient access to reporting that would result in raising the quality of information. It is a kind of linkage between the financial and corporate values, i.e. the way in which the corporate strategy expressed through numbers contributes to the company, environment, as well as to the economy in which it operates. In the end, all stakeholders would benefit from such integration, primarily in the area of high-quality corporate decision making based on the integrated collection of information. More than 80 companies and over 25 investors took part in the pilot programme. The International Integrated Reporting Council calls itself a “global coalition” of all those who take part in decision making ranging from the regulators, investors and companies, to the founders of the accounting standards, accounting professionals and non-governmental organisations. The mission of the Council is to create an internationally accepted framework that would inform the public on the strategy, management, results and goals of the company businesses in a clear, summarized and comparable way that should influence the quality of the corporate reporting.

In 2012, the International Integrated Reporting Council published a research entitled “Realizing the benefits: The impact of Integrated Reporting”<sup>6</sup> pointing out the numerous benefits exercised by the companies that publish integrated reports.

The presented research clearly showed the benefits of integrated reporting for all stakeholders. These benefits manifested through:

---

<sup>5</sup>The International Integrated Reporting Council: hereinafter the IIRC

<sup>6</sup>Source: <http://integratedreporting.org/>



- Improved understanding of how the company creates value,
- Change in performance information used to manage the business, and
- Positive impact on long-term decision making.

The majority of interviewees, 92%, believed that integrated reporting resulted in better understanding of the way in which the companies create value, 84% of interviewees saw a current benefit regarding the quality of presented data, 71% of interviewees saw that this process brought a long-term value to the company and increased the performance of its Management Board. A research conducted by Laurie Havelock (Havelock ,2014) showed that integrated reporting is the most common in Europe, while 53% interviewees in North America stated that they do not have a sustainability report. This clearly shows a direction for further activities and a need to take the development of integrated reporting further to becoming globally accepted and mandatory for all business entities. Such direction would result in additional quality for all stakeholders, while also widening the basis and concepts of management applied by the company Board.

As a result of the efforts made by the International Integrated Reporting Council we have the first integrated report published by the company GE, on March 14 2016.<sup>7</sup> A 68-page report provides a complete and summarised presentation of business operations in an integrated manner, including a sustainability report, corporate strategy, as well as the company performance.

## 5. Conclusion

Financial reports are the reflection of the company business operations intended for various users. Throughout the history, different requirements made by the certain stakeholders in relation to corporate information, have initiated the need to replenish financial reporting and made room for non-financial information. This is supported by the fact that corporate sustainability is possible only if corporate management, in addition to economical, also includes social and ecological aspects. Considering the differences and often the conflicts between the objectives of the certain stakeholders, the integrated management is facing great challenges. In this context the role of the company Board is also changing – apart from the financial objective, it also has the task to define and implement the strategy aimed at ensuring the harmony among the divisions within the company, harmony within the company organisation, environment in which the company conducts its activities, and the society as a whole. In order to meet the requirements set in such a manner, the integrated management must ensure an integrated reporting system including both, financial, as well as non-financial reporting. Creating integrated reports also affects the quality of decision making. High-quality, truthful and fair reporting leads to trust in relations with the stakeholders, which results in numerous positive consequences. In spite of the numerous benefits provided by such a reporting system, research results show underdevelopment of the integrated reporting system, but also the increasing awareness of its benefits among the stakeholders. The Global Reporting Initiative encourages organisations to implement the integrated reporting system by developing guidelines, but the companies still freely decide on its implementation. In future we might expect more serious consideration of such manner of reporting, in form of developing the specific integrated reporting standards. Making such reporting a standardised obligation would additionally strengthen the information system and satisfy different needs of the stakeholders.

---

<sup>7</sup>Report available at <http://www.ge.com/ar2015/integrated-report>

## REFERENCES

Dalling, I. (2007): *Integrated Management Definition Prepared by the Chartered Quality Institute Integrated management Special Interest Group*, Issue 2.1, pp. 1-8.

Ditlev-Simonsen, C. D. (2010): Historical Account of key word sin non-financial report titles (A review of FT 500 corporations from 1989 to 2007). *Issues in Social & Environmental Accounting* [online], Vol. 4 Issue 2, pp. 136-148.

Donaldson, T., Preston, L.E. (1995): *The stakeholder theory has been advanced and justified*, *The Academy of Management Review*, Vol. 20, No.1, pp. 65-9.

Egels, N. (2004): *Reframing Instrumental Stakeholder Theory*, Institute for Economy and the Environment, Ph.D. summer academy, University of St. Gallen, pp. 5-6.

Global Reporting Initiative, *Smjernice za izvještavanje o održivosti /Sustainability Reporting Guidelines/, Croatian Reporting Guidelines*, pp. 3-34, <https://www.globalreporting.org/resourcelibrary/GRI-G3-Croatian-Reporting-Guidelines.pdf>, (accessed 28 February 2016)

Global Reporting Initiative, *The sustainability content of integrated reports – a survey of pioneers*, pp. 7-42, <https://www.globalreporting.org/resourcelibrary/GRI-IR.pdf>, (accessed 15 February 2016)

Graham, John R., Harvey, Campbell R., Rajgopal, S. (2004): *The Economic Implications of Corporate Financial Reporting*, National Bureau of Economic Research, Cambridge: Cambridge. pp. 1-73.

Havelock, L. (2014): *Getting to grips with integrated reporting*, <http://www.irmagazine.com/articles/earnings-calls-financial-reporting/20402/getting-grips-integrated-reporting/> (accessed 14 February 2016)

Hellriegel, D., Jaskson, S.E., Slocum Jr, J.W. (2005): *Management*, Int.ed., Mason, OH, Thomson South-Western, pp.1-54.

The International<IR> framework (2013): *Integrated Reporting*, pp. 1-37, <http://integratedreporting.org/resource/international-ir-framework/>, (accessed 15 February 2016)

Integrated Reporting (2014): *Realizing the benefits: The impact of Integrated Reporting*, pp. 1-27, [http://integratedreporting.org/wpcontent/uploads/2014/09/IIRC.Black\\_Sun\\_Research.IR\\_Impact.Single.pages.18.9.14.pdf](http://integratedreporting.org/wpcontent/uploads/2014/09/IIRC.Black_Sun_Research.IR_Impact.Single.pages.18.9.14.pdf), (accessed 15 February 2016)

Jensen, M.C. (2001): *value Maximization, Stakeholder Theory, and the Corporate Objective Function*, The Monitor Group and Harvard Business School, Bank of America Journal of Applied Corporate Finance, pp. 8-21.

Omazić, M. A. (2007): *Društvena odgovornost i strategije hrvatskih poduzeća. /Social Responsibility and Strategies of Croatian Companies*, Doctoral thesis. Zagreb: Faculty of Economy, pp. 322-325.

Santini, I. (2007): *Ugrožava li teorija interesno utjecajnih skupina primat koncepta maksimizacije vrijednosti /Is the stakeholder theory endangering the primacy of the value maximization concept*, Ekonomski pregled /Economic Review/, 58 (5-6), pp. 328-345.

Sisek, B., Strahonja, M. (2012): *Stakeholderski pristup poduzeću /Stakeholder Approach to Business*, Poslovnalzvrsnost /Business Excellence/, Zagreb, Yr. VI, No. 1, pp. 129-146.

Stahl, B.C. (2004): *The responsible company of the future: reflective responsibility in business*, Centre for computing and Social Responsibility, De Montfort University, Leicester, UK, pp. 118-131.

Swaen, V., Chumpitaz, R., Bigne, E., Andreu, L. (2003): *Being A Socially Responsible Company, What Does It Mean for European Young Consumer? Analysis of the Impact of Perceived Environment, Culture and Value*, 32nd Conference of European Marketing Academy, University of Strathclyde, pp. 2-11.

**Mirela Tolić, PhD.**

Faculty of Humanities and Social Sciences

Lorenza Jagaera 9

Phone: +385/31 21 14 00 Fax: +38531 21 25 14

E-mail address: mtolic@ffos.hr

**Sara Pejaković, MA.**

Faculty of Humanities and Social Sciences

Lorenza Jagaera 9

Phone: +385/31 21 14 00 Fax: +38531 21 25 14

E-mail address: skakuk@ffos.hr

**SELF-ASSESSMENT OF DIGITAL COMPETENCES OF HIGHER  
EDUCATION PROFESSORS****SAMOPROCJENA DIGITALNIH KOMPETENCIJA NASTAVNIKA U  
VISOKOM OBRAZOVANJU****ABSTRACT**

*Contemporary technologies (ICT) are becoming more and more of an important source of knowledge for governing human resources, especially in the area of the role of education and the acquirement of competences for higher education institution professors. As a long-term goal in the economic and social advancement, there are initiatives regarding the insurance of multiple IT education. Given the fact that Croatia lacks research with the goal of assessing the initial knowledge of IT literacy within higher education institutions, the goal of this research was to pinpoint the level of knowledge and digital competences of professors and associates of the university level in Croatia. The goal was also to determine the frequency of the implementation of contemporary technologies in class and to explain the necessity of implementing the program of Multimedia Training and E-learning at the university level for professors. This research has been done on a representative sample (N=1800) of professors and associates of universities in Croatia, among different faculties and departments in Osijek, Split, and Zagreb. The results show that the professors and associates of higher education institutions of technical sciences and IT are the most digitally competent ones in scientific research and apply contemporary technologies significantly more (statistically speaking) than the professors and associates dealing with social studies and humanities. The results show that over 70% of professors and associates are deemed to be digitally competent in the usage of computers and new technologies and that over 60% of them regularly use media in class. The examinees are mostly unanimous on the assessment of key digital competences of professors for using new technologies, as well as on the purpose of using new technologies in the teaching process.*

**Key words:** digital competence, higher education institutions in Croatia, the application of contemporary technology in class, the purpose of applying new technologies.

**SAŽETAK**

*Suvremene tehnologije (ICT) sve više danas postaju važan izvor spoznaja za upravljanje ljudskim potencijalima, posebice u području funkcije obrazovanja i stjecanja kompetencije nastavnika u visokoškolskim ustanovama. Kao dugoročan cilj u gospodarskom i društvenom*

*napreku jesu inicijative vezane za osiguravanje višestrukog informatičkog obrazovanja. Budući da u Hrvatskoj nedostaju istraživanja koja za cilj imaju procjenu inicijalnog stanja informatičke pismenosti unutar visokoškolskih institucija; cilj ovog istraživanja bio je utvrditi razinu znanja, digitalne kompetencije nastavnika i suradnika visokoškolskih učilišta u RH, odrediti učestalost primjene suvremenih tehnologija u nastavi te obrazložiti nužnost implementacije programa Multimedijskog osposobljavanja i e-učenja na fakultetima nastavnčkog smjera. Istraživanje je provedeno na reprezentativnom uzorku (N = 1800) nastavnika i suradnika visokoškolskih učilišta u RH među različitim sastavnicama (fakultetima i odjelima) u Osijeku, Splitu i Zagrebu. Rezultati istraživanja pokazuju da su nastavnici i suradnici visokoškolskih institucija tehničkih znanosti i informacijskih znanosti digitalno najkompetentniji u istraživačkom znanstvenom radu te statistički značajno više primjenjuju suvremene tehnologije za razliku od nastavnika i suradnika društvenih znanosti i humanističkih znanosti. Rezultati pokazuju kako se preko 70% nastavnika i suradnika procjenjuje digitalno kompetentnima u uporabi računala i novih tehnologija te njih preko 60% redovito koriste medije u nastavi. Ispitanici su uglavnom suglasni oko procjene ključnih digitalnih kompetencija nastavnika za rad s novim tehnologijama kao i svrhom korištenja novih tehnologija u procesu nastave.*

**Ključne riječi:** digitalna kompetencija, visokoškolska učilišta u RH, primjena suvremene tehnologije u nastavi, svrha primjene novih tehnologija.

## 1. Introduction

The influence of digital technology is obvious in every aspect of human life. Education is no different. In education, digital technology enables dislocated education and transforms every living and work space into a potential classroom. Because of that, faculties (and especially those educating professors) need to recognize which kind of technology they need to use with which form of class methods in order to improve the teaching process because not every teaching method is meant for the same IT program or some other application. It is problematic for young people, on the one hand, that they need to integrate into such a digital society. On the other hand, richer possibilities of informing, blogging, IT communication, mobility etc. open for them. In the so-called linking of new technologies, young professors and associates working in higher education institutions need to warn their students of the necessity of checking various media information, validating them and knowing how to use a certain kind of technology in a pragmatic and functional way. That is the reason why the results of the research have shown the necessity of implementing the Multimedia Training and E-learning<sup>1</sup> program on those faculties which educate professors to work with children and the young in the future, precisely because the trend of today is an ever-growing tendency to use tablets in class. The Multimedia Training and E-learning program would precisely consist of acquiring basic levels of digital competences, which assume: a) the analysis and implementation of e-learning in the teaching process<sup>2</sup>, b) correct application of methods and

---

<sup>1</sup>The goal of the program is to enable trainees to gain new multimedia competences in the process of multimedia training, along with the development of their digital literacy and to train them to e-learn in the process of the technical-methodical development. Also, the goal is for them to acquire basic knowledge in the process of the multimedia learning of a foreign language. The approach of this program is interdisciplinary in nature.

<sup>2</sup> a) The application of life-long learning media, connecting digital communication and media taxonomy with databases, table calculation, communication in learning from afar, programs and tools for e-learning: programs for acquiring academic titles in natural, social and other sciences, programs for further improvement, re-qualifying, specialization and programs in the culture of living area), b) Methodic basics of e-learning/methods: 1) Blended Learning, 2) Social learning and Web 3.0, 3) Mobile learning, 4) WebQuests and Game Based Learning, c) a) Didactic models of e-learning, didactic web design in e-learning, c) platforms for e-learning, d) building multimedia systems, e) techniques of using multimedia in learning and making online materials in web technology on a higher than ECDL to ECDL CAD (Computer Aided Design) level, ECDL CTP (Certified

didactics in e-learning and c) the adoption of didactic basics. All the recent contemporary research overseas and in Croatia point to the necessity of integrating contemporary technologies in class in the context of the improvement of scientific and class work in higher education institutions, especially those with a teaching course (Tolić, 2015)<sup>3</sup>. There is no research, as of yet, in Croatia on the assessment of digital competences in higher education institutions. Considering that the contemporary society is aiming for a new educational reform in which IT plays a key role, several problematic questions arise: how should one train students to work with new mass communication if the professors themselves do not have adequately developed digital competence? (Moser; 2006, 2004, 2015). Furthermore, how do professors access technologies and which forms of approach may be distinguished? Digital technology is spreading with a progressive speed and has (potentially) a significant influence in the advancement of scientific and class work. Even though students, on the one hand, strive towards more innovative ways of attending college and a holistic approach, on the other hand not all professors are prepared for new changes.

## 1.1. Research goal

The goal of this research is to find out about the levels of digital competences of professors and associates at higher education universities in the Republic of Croatia, of their level of knowledge in the information-communication technology in the educational process, as well as of the purposefulness and frequency of the application of contemporary technologies in class and scientific-practical work. Further operationalization of the goal will aim at the following research assignments:

- To confirm whether there is an influence of the academic title of professor and associate on the self-assessment of the level of their digital competences
- To confirm whether there is an influence of the scientific area and the university at which the professors and associates work on the level of self-assessment of their digital competences
- To confirm the level of self-assessment for digital competences of professors and associates at higher education institutions
- To confirm the self-assessment of professors and associates on the knowledge of new web-terminologies, taking scientific areas of professors and associates into consideration
- To confirm the purpose of using contemporary technology in the scientific-teaching work of professors and associates
- To confirm the frequency of using media and information-communication technology in the teaching process.

### 1.1.1. Research hypotheses

H1 – The examinees with a lower academic status assess their level of digital competences to be greater than those with a higher academic status.

H2 – There is a difference between the scientific area and the university at which the teachers and associates work and the level of self-assessment of their digital competences.

---

Training Professional), as well as ECDL ImageMaker, (the stated goals of the program have been taken from a work-in-progress version of the paper: Multimedia Training and E-learning, authored by doc.dr.sc. Mirela Tolić)

<sup>3</sup> For example, the University of Harvard, the University of Martin Luther in Wittenberg, Fern University, the University of Heidelberg, Humboldt and the University of Johannes Gutenberg have been applying e-learning within various elements of e-learning at higher education institutions successfully for quite some time, especially for the teaching courses (Bundesministerium für Hochschulbildung, 2010).

H3 – The level of self-assessment of digital competences of professors and associates at higher education institutions is satisfactory regarding the European context<sup>4</sup>.

H4 – The examinees who work in the technical and natural sciences show a greater level of knowledge of new web-terminologies in relation to those in social sciences and humanities.

H5 – The examinees most frequently use contemporary technologies in scientific-teaching work of professors and associates with a purpose of making creative tasks in class and student communication.

H6 – The usage of media and information-communication technology in the teaching process is more frequent in examinees in social sciences and humanities.

### 1.1.2. Research methodology

This research has been done on a representative sample (N=1800) of professors and associates of higher education institutions in Croatia<sup>5</sup> among different institutions (faculties and departments) in Osijek (N=720, 40%), Split (N=594, 33%), and Zagreb (N=486, 27%). This research uses the stratified sample method from the population of professors and associates at higher education institutions<sup>6</sup>. Out of the total 1800 examinees, there were 990 women (55%) and 810 men (45%). The average age for an examinee was 35 to 58. This paper presents the most important results of the research in relation to using ICT in class and in working with students. The first eight questions were about the general information relating to set variables (gender, name of university, place of habitation, teaching experience, location of the university, scientific area and title). The second part of the online questionnaire consisted of nineteen questions in which the examinees estimated their own level of knowledge of digital competences, the frequency of applying contemporary technologies in class and scientific-practical work, the purpose of using ICT, self-assessment of evaluating information by way of digital sources and the self-assessment of using e-learning in class. The application of individual knowledges of digital competence in the scientific-practical work was estimated by examinees on a scale of four degrees (1 – never, 4 – frequent). In those questions in which the examinees evaluated the frequency of using new technologies, they answered by choosing one out of seven options: every day, several times, once a week, several times a month, once a month, less than once a month, I don't use new technologies in work and class. In those questions which estimated the congruence with the aforementioned statements on the importance of digital competences of a professor for working with new media, as well as the purpose of using contemporary technologies in class, the examinees chose on a scale of five degrees (1 – I completely disagree, 5 – I completely agree). In those questions which pertained to the assessment of knowledge, the examinees were able to choose one out of five offered answers: excellent, very good, good, weak, very weak. During data processing, the procedures of descriptive and inferential statistics were used. More precisely, the process of calculating frequencies, percentages, Hi-square ( $\chi^2$ ) test and the correlation coefficient (Cramer's V ( $\rho_c$ ) coefficient).

---

<sup>4</sup>See: Strategic document "E-Croatia 2020 Strategy"; <http://europski-fondovi.eu/sites/default/files/dokumenti/Strategija%20e-Hrvatska%202020.%20%2820.01.2016.%29.pdf>

<sup>5</sup> 11.000 out of 15.000 employees in the science and higher education system

<sup>6</sup>This is part of a greater work of research on the assessment of the level of digital competences and the frequency of adapting contemporary technologies in classes of higher education professors and associate of Europe which has been done within the DFGP project "E-Learning und Multimediakompetenz der Deutschen Initiative für Netzwerk Information". Online research has been done from April 2<sup>nd</sup> 2015 to June 14<sup>th</sup> 2015. The online questionnaire was on web-bases homepages of individual university departments. To that end, a comprehensive questionnaire created by experts (media psychologists) from the University of Johannes Gutenberg has been applied within the framework of the common European project.

## 2. Results and discussion

The most frequent examinees, considering the place of work, were the employees of the following parts of the University in Osijek (40%): Faculty of Humanities and Social Sciences, Faculty of Education, Faculty of Electrical Engineering, Faculty of Economics, Department of Cultural Studies, Faculty of Food Science and Technology, and the Faculty of Law; from the University of Zagreb (27%): Faculty of Humanities and Social Sciences, Faculty of Kinesiology, Faculty of Law, Faculty of Architecture, Faculty of Economics; from the University of Split (33%): Faculty of Humanities and Social Sciences, Faculty of Law, Faculty of Economics, Academy of Arts, Faculty of Medicine, Faculty of Teacher Education, Faculty of Chemistry and Technology and Faculty of Electrical Engineering. According to the Hi-square test results ( $\lambda^2$ ), there is a significant statistical difference dependent on the age ( $\chi^2 = 32,9$ ,  $df=3$ ,  $p \leq 0,01$ ) and gender ( $\chi^2=36,0$ ,  $df=1$ ,  $p \leq 0,01$ ) of the examinees who took part in the research. Those aged 35 to 45 ( $N=52,14\%$ ) were significantly more involved in the questionnaire than those aged 55 to 65 ( $N=8\%$ ). Therefore, the examinees aged 35 to 45 who filled out the questionnaire were likely more motivated because research has shown that they had a higher level of digital competences while filling out the questionnaire, as opposed to those examinees aged 55 to 65. Therefore, those with a higher level of already adopted digital competences filled out the online questionnaire more frequently. Table 2 shows predominant factors of examinees according to scientific areas and according to title. Most examinees work in social sciences (43,69%), humanities (24,39%), and in technical sciences (19,89%). Also, results show that this research has predominantly been done on those examinees with the title of assistant professor (36,78%), assistants (27,56%) and lectors/lecturers/professional associates (14,95%). Therefore, the highest level of motivation for filling out the online questionnaire due to the assessment of one's own digital competences was shown by the examinees of the lesser title. Research has shown that 36,78% of examinees with the title of assistant professor took part, aged 35-45, as shown in Table 2. They deemed themselves members of the digital generation and, in doing so, assessed their level of digital competences as greater than the one of the examinees of a greater title, associate professor (9.45%) and professor (7.15%), age 55-65. The following do not consider themselves members of the digital generation. Results are shown in Table 1.

**Table 1** Comparison of prevalence of examinees according to membership in the digital generation. Examinees shown according to title and age

Title	Percentage (%)
Lector/Lecturer/Professional Associate	27,31
Assistant	14,23
Assistant Professor	36,78
Associate Professor	9,45
Professor	7,15
Professor with tenure	5,11
Age	
25-35	6 %
35-45	52,1 %
45-55	33,86 %
55-65	8 %

Source: Authors

**Table 2** Prevalence of examinees according to title and scientific area

Title	Prevalence (%)	Scientific area	Prevalence (%)
Lector/Lecturer/Professional associate	14,95%	Natural sciences	4,5%
Assistant	27,6%	Technical sciences	19,89%
Assistant Professor	36,78%	Social sciences	43,69%



Title	Prevalence (%)	Scientific area	Prevalence (%)
Associate Professor	10,3%	Humanities	34,39%
Professor	8,2%	Biomedicine and healthcare	5,53%
Professor with tenure	2,1%	Rest	2%
Rest	0,11%		

Source: Authors

In regards to the assessment of digital competences of the entire sample of examinees, most of them assess their digital competence as very good (36,78) or excellent (35,06%). That means that over 70% of examinees consider themselves competent in the usage of computers and new technologies. If the answers of all the examinees are analyzed from the view of title or status, the results show that the examinees of a lesser title or status i.e. assistants or lectors, as well as assistant professors, consider themselves the members of the so-called digital generation (65,56%) and that they had classes or were introduced to ICT, with regards to the development of digital competence, during their studies. Also, this research has shown that, in most examinees (members of the digital generation taking part in the research), 76,35% own a personal computer, tablet or other kinds of innovative technologies like E-readers etc., while 23,65% of examinees who do not consider themselves members of the digital generation and who own a greater academic title do not own digital tools. When the results are compared from the aspect of the scientific area, most examinees ( $\chi^2=717,32$ ,  $df=3$ ,  $p<.05$ ) in humanities and social sciences, as well as biomedicine and healthcare, consider themselves aware of the general level of digital competence. That means that they are familiar with the Microsoft Office system (46,25%), not the expert level which implies working in e-tools, innovative software such as TeamViewer etc. In the assessment of knowledge in the area of applying e-learning in class, for instance the MOODLE system, results show that there is a significant difference in the application of e-learning ( $\chi^2=502,85$ ,  $df=4$ ,  $p<.05$ ) and that most examinees uses MOODLE very well in class (Picture 2). If the results are compared with regards to the scientific area of the professors and associates involved in the research, they show that the examinees in technical sciences (56,8%) and humanities (42,5%) use MOODLE more than those in social sciences (39,6%). These results are definitely to be expected, given that digital technology dominates technical sciences more than it does social sciences. Following suit with the contemporary research pointing to the necessity of integrating contemporary technologies in class in the context of improving scientific and class work at higher education institutions, this integration also points to the need of involving professors and students of social sciences.

**Table 3** The assessment of 'frequent' usage of the MOODLE system in class, with regards to the scientific area of professors and associates and with regards to universities

Scientific area	Total prevalence (%)	Split (%)	Zagreb (%)	Osijek (%)
Natural sciences	24,51	26,53	20,31	28,65
Technical sciences	56,8	18,65	4,56	19,99
Social sciences	39,6	21,36	14,79	24,25
Humanities	42,5	22,36	11,49	23,65
Biomedicine and healthcare	13,4	21,56	11,79	23,25
Rest	1,6	36,56	19,95	41,89

Source: Authors

Also, a statistically significant difference has been noted, as well as a slight connection between examinees working in technical sciences at the University of Split and the University of Osijek with regards to the more frequent usage of the MOODLE system in class ( $\chi^2 139,12$ ,  $df=2$ ),  $p<.05$ , Cramer's  $V=.19$ ) in regards to the examinees working in social sciences in Split and Osijek. Furthermore, research has shown that the examinees were mostly familiar with web expressions such as multimedia (67,56%), mobile communications (99,68%) and Wikipedia (57,59%). A significant correlation has been confirmed among the different parts of universities of a technical course and humanities pertaining to a greater level of familiarity with other web expressions ( $r = .41$ ,  $p<.05$ ) in regards to courses in social sciences.

**Table 4** An assessment of familiarity with web expressions: An assessment of 'complete familiarity' with web expressions considering the scientific area of the professor and associate

Web – expression	Total prevalence (%)	Natural sciences (%)	Technical sciences (%)	Social sciences (%)	Humanities (%)	Biomedicine and healthcare (%)
Hypertext	78,84%	12,11	27,56	13,44	23,78	1,95
Hypermedia	83,45%	11,11	26,23	12,45	24,45	9,21
Multimedia	67,56%	9,45	22,12	11,23	23,23	1,53
Instant Messaging	23,64%	4,53	6,23	2,23	5,42	5,25
WEB 2.0	98,78%	13,45	31,45	9,45	22,87	21,56
Docuwiki	26,36%	0,45	11,84	2,36	7,26	4,45
Mobile Instant Messaging programs	99,86%	3,56	78,56	2,23	9,46	6,35
Wikipedia	57,59%	7,89	21,56	6,54	9,96	11,64
Wikianswers	35,65%	2,12	21,23	1,23	13,36	0,17
Wikiversity	25,56%	0,36	16,36	0,12	2,36	6,36
YackPack	14,65%	0,11	11,36	0,23	1,23	1,72
Slidestory	9,36%	1,11	7,36	0,12	0,65	0,12
Google Docs & Spreadsheets	68,87%	4,23	58,59	1,11	3,26	1,38

Source: Authors

When comparing the assessment of the importance of digital competences of professors for working with new media, the examinees are unanimous that most of the aforementioned skills are necessary to work in class, apart from the skill of using social networks which the examinees have not seen as key in relation to other digital competences, just like organizing work on the computer. Therefore, most of the examinees completely agree that in working with students and in scientific work, the most important digital competences are knowing how to work in computer programs (such as Office), using the Internet, writing, reading and understanding text on computers and digital sources, sending and receiving e-mails; analyzing and valuing e-information. That means that the results of the Hi-square test show a statistically significant difference in the estimation of the frequency of using media in class ( $\chi^2=990,58$ ,  $df=3$ ,  $p<.05$ ) where examinees have stated in more than 60% of cases that they always use media in their teaching process, and 2% said they never do. Congruent with this are the estimations of key digital competences. Picture 5 points to results which state that most examinees say the purpose of using contemporary technologies in class is to improve their own way of working, according to the EU standards i.e. the recommendation of the White Document and the strategy of planning higher education up to 2030. In the table below (Table 4) there are clear and high levels of connection ( $r=.78$ ) between the statement that media have an ambivalent role in the process of education (statement 2) with a particle of improving learning outcomes. That means that those examinees who consider media to have an ambivalent role most often use the media for improving learning outcomes. That means that those examinees who consider it necessary for students to be trained to work with new media most often use new media when making creative tasks.

**Table 5** Connection between agreeing with individual statements and the purpose and frequency of using technologies in class

Statements	Correlation	Hi-square	Frequency and purpose of usage
The media are the social carriers of the young generation	.364569	4,951, $p \leq .05$	in presenting results and tasks
The media have an ambivalent role in the process of education	.787852	<b>5,911, <math>p \leq .05</math></b>	in improving learning outcomes
New media in class should be themed	.459357	3,251, $p \leq .05$	in enabling the evaluation of learning outcomes
Work colleagues should be able to use new technologies	.634512	<b>6,521, <math>p \leq .05</math></b>	in enabling methodic changes to class
Work colleagues should be able to use new technologies	.413423	4,521, $p \leq .05$	in implying new learning environments
New media do not belong in class	.234736	3,251, $p \leq .05$	in transferring current information
New media should be rationally used in class (presentations, data portrayal etc.)	.436512	4,951, $p \leq .05$	in bettering the creativity of student works
Training professors to work with new media in class	.451236	3,5, $p \leq .05$	for better communication among colleagues and students
Training students to work with new media	.741232	<b>6,251, <math>p \leq .05</math></b>	for making creative tasks
Discussing the influence of media on the consciousness and student behavior in class	.234152	4,131, $p \leq .05$	creating: text, pictures, boards, billboards, digital projector
Knowing how to didactically shape new media for the purpose of bettering the teaching process	.512321	4,131, $p \leq .05$	Photographs, film, DVD-player, video-camera
Developing digital competences in professors	.321232	2,151, $p \leq .05$	music, CD-player, audio amplifier, audio recordings
Developing digital competences in students	.425657	2,151, $p \leq .05$	computer, shaping texts, tables, searching the Internet, online exercises, webinars

Source: Authors

Table 4 shows the confirmed statistically significant differences and the connection in the level of each statement mentioned in the table in relation to the frequency and purpose of using media.

### 3. Conclusion

The hypothesis in which examinees with a lower academic status assess their level of digital competence as higher than those with a higher academic status has been confirmed. It has also been confirmed that there is a difference between the scientific area and the university where professors and associates are employed and the level of self-assessment of their digital competences. It has been confirmed that the level of self-assessment of digital competences of professors and assistants at higher education institutions is satisfactory in relation to the

European context<sup>7</sup>. This research has also shown that examinees from technical and natural sciences show a larger degree of familiarity with new web expressions in relation to those in social sciences and humanities. It has been confirmed that the usage of media and information-communication technology in the teaching process is more common among examinees in social sciences and humanities which confirms the final research hypothesis. According to the data gathered in this research, it is important to raise awareness of the necessity for integrating the *Multimedia Training and E-learning Program* and to point to the necessity of training professors and assistants for working with information-communication technologies, using which they will be able to practically and pragmatically apply various digital competences in their work with students and in advancing their scientific-investigative work.

## REFERENCES

- Bindé, J. et al. (2007): *UNESCO-ovo svjetsko izvješće: prema društvima znanja*. Educa, Zagreb.
- Gobo, D. (2012): *Razvoj digitalne kompetencije u obrazovanju*- doktorski rad.; Zagreb.
- Ilišin, V. (2007): *Mediji u slobodnom vremenu djece i komunikacija o medijskim sadržajima*, *Medijska istraživanja*, 9(2), 9–34.
- Moser, H. (2015): *Die Medienpädagogik und der zweite Strukturwandel der Öffentlichkeit*. In: Heinz Moser et al. (Hrsg.), *Jahrbuch Medienpädagogik 7.: Medien, Pädagogik, Politik*. VS Verlag für Sozialwissenschaften, 23–50., Wiesbaden
- Moser, H. (2006): *Standards für die Medienbildung. Schweizer Erfahrungen mit der Entwicklung von Standards*. *Computer+Unterricht*, 63, 16–18.
- Moser, H. (2007): *Standards in der Medienbildung. ein Standardmodell aus der Schweiz*. *Computer+Unterricht*, 63, 49–55.
- Tolić, M. (2015): *Digital society and Learner Identity: Saarbrücken. Academic Publishing, GmbH&C.*, Saarbrücken,
- Internet Resource:*  
<http://europskifondovi.eu/sites/default/files/dokumenti/Strategija%20eHrvatska%202020.%20%2820.01.2016.%29.pdf>, (accessed 1 April 2016)  
<http://eur-lex.europa.eu/legal-content/HR/TXT/?uri=CELEX:52013AE5751>, (accessed 1 April 2016) See: <http://www.nvzvotr.hr/hr/dokumenti>, (accessed 24 March 2016)  
<http://www.dzs.hr/>, (accessed 4 March 2016)
- Izgradnja europskog prostora cjeloživotnog učenja, Bruxelles, COM(2001):[public.mzos.hr/fgs.axd?id=11253](http://public.mzos.hr/fgs.axd?id=11253), (accessed 20 March 2016)
- Memorandum Vijeća Europe o cjeloživotnom učenju, Bruxelles, SEC(2000) 1832: [https://www.efst.hr/dokumenti/cczo/Memorandum\\_o\\_cjelozivotnom\\_ucenju.pdf](https://www.efst.hr/dokumenti/cczo/Memorandum_o_cjelozivotnom_ucenju.pdf), (accessed 29 March 2016)
- Europsko izvješće o indikatorima kvalitete cjeloživotnog učenja, Bruxelles, 2002: <http://programjako.info/wpcontent/uploads/2009/01/StrategijaObrazovanjaOdraslih.pdf>, (accessed 2 April 2016)  
[http://narodne-novine.nn.hr/clanci/sluzbeni/2014\\_10\\_124\\_2364.html](http://narodne-novine.nn.hr/clanci/sluzbeni/2014_10_124_2364.html), (accessed 21 March 2016)

---

<sup>7</sup>. This piece of information is troubling because searching databases is of great importance for future development of scientific-investigative work if we take into consideration the new national proposal of a rulebook on advancement in titles (Pravilnik o uvjetima za izbor u znanstvena zvanja, Nacrt, February 27<sup>th</sup> 2016) which precisely confirms the importance of digital competences. . See: Strategic document “E-Croatia 2020 strategy”; <http://europski-fondovi.eu/sites/default/files/dokumenti/Strategija%20eHrvatska%202020.%20%2820.01.2016.%29.pdf>

**Walter, Vlad Veckie, P.Eng**  
Unified Engineering Corp.-CEO  
Ontario Canada  
E-mail: veckie@gmail.com  
Phone: +19059060377

**Anka Mašek Tonković, Ph D**  
Faculty of Economics in Osijek  
Phone: +385 99 430 1230  
E-mail: masek.tonkovic@gmail.com

**Edward Anthony Veckie, MBA, P. Eng**  
Unimatix Control & Automation Inc. – CEO  
Ontario, Canada  
E-mail: edward.veckie@gmail.com  
Phone: 19055231700; + 19059067742

## **ROLE OF MENTORS IN LEADERS PERFORMANCE**

## **ULOGA MENTORA U DJELOTVORNOSTI LIDERA**

### ***ABSTRACT***

*After years of working and successfully leading companies, on the peak of their careers leaders face the tipping point<sup>1</sup> (Malcolm Gladwell, *The Tipping Point*, 2000,2002), where they could use their knowledge and abilities in new challenges – as mentors. Guided by the lifelong passion for new achievements, they join an “organized network of globally successful leaders”<sup>2</sup> with the purpose of re-engaging and proving themselves experts once again. This way, with their engagement, they contribute to creation of new leaders. In new business affairs they find new solutions and possibilities for success based on empirical methods proven in practice, but also having respect for competition and new processes of emerging changes.*

*Mentors, guided by passion for success, want to engage themselves in ailing companies, clubs, and various organizations which have problems being competitive or stagnate in development, in order to point to possibilities for prosperity within the worldwide globalization process.*

---

<sup>1</sup>MalcolmGladwell:*TheTipping Point; HowLittleThingCanMake a Big Difference*, 2000,2002 Copyright,  
MalcomGladwell

<sup>2</sup><http://www.vistage.com/>

*Mentors especially want to get involved and engaged in their homelands, in order to contribute the development of their domicile regions.*

*This paper shows, with examples from the practice, various possibilities for mentorship in economy, sport and other organizations. Usually retired, once leaders and now in the roles of mentors, they prepare young talented people to become leaders in the areas they deal with. Mentors from the diaspora, with their life experience and knowledge, they primarily want to help young and inexperienced company leaders, and also other organizations in the country they came from, in order to be more competitive and successful on the world market.*

*The goal of this paper, by using examples from the domestic and foreign practice, is to encourage leaders in the existing or startup companies, cultural, sport, tourist and other organizations to join the "organized network of globally successful leaders" in order to improve development and placement of products on the world markets. We especially want to emphasize the importance of using mentors from the diaspora, because they have experience and knowledge gained by years of working in the business world. Using their knowledge and skills, the economy could adapt more quickly to changes, achieve global competitiveness and thus achieve bigger and faster growth of gross domestic product (GDP) of the Republic of Croatia.*

**Key words:** *mentors, leaders, competitiveness, the diaspora, prosperity, development*

## SAŽETAK

*Lideri nakon dugogodišnjeg rada i uspješnog vođenja tvrtki, na vrhuncu svoje karijere dolaze do točke preokreta<sup>3</sup> (Malcolm Gladwell, The Tipping Point, 2000, 2002), kako bi svoje znanje i sposobnost uključili u nove izazove kao mentori. Vođeni životnom strašću za nova postignuća, pridružuju se "organiziranoj mreži uspješnih svjetskih lidera",<sup>4</sup> sa svrhom ponovnog angažiranja i dokazali se ponovo kao znalci i stručnjaci. Na taj način u svom angažiranju doprinose stvaranju novih lidera. U novim poslovima pronalaze nova rješenja i mogućnosti za uspjeh na osnovu iskustvenih metoda dokazanih u praksi, ali respektirajući konkurentnost i nove procese nastupajućih promjena.*

*Mentori, vođeni strašću za ostvarivanje uspjeha, žele se angažirati u posrnule tvrtke, klubove, razne organizacije koje imaju problema sa konkurentnosti ili istagnacijom u razvoju, kako bi ukazali na mogućnost prosperiteta u svjetskim razmjerima procesa globalizacije. Posebno se mentori žele uključiti i angažirati u zemljama iz kojih su potekli, kako bi pripomogli razvoju domicilne regije.*

*U radu se na primjerima iz prakse prikazuju različite mogućnosti mentorstva u gospodarstvu, sportu i inim organizacijama. Obično umirovljeni, nekada lideri a sada u ulozi mentora rade na pripremi mladih talenata kako bi postali vođe u poslovima kojima se bave ili se žele baviti. U ulozi mentora iz dijaspore svojim životnim iskustvom i znanjem želi se prije svega pomoći mladim neiskusnim vođama tvrtki, ali i drugim organizacijama u zemlji iz koje su došli po pitanju konkurentnosti kako bi bili uspješni na svjetskom tržištu.*

---

<sup>3</sup>Malcolm Gladwell, The Tipping Point; How Little Things Can Make a Big Difference, 2000, 2002 Copyright, Malcolm Gladwell

<sup>4</sup><http://www.vistage.com/>

*Cilj rada je primjerima iz domaće i strane prakse, potaknuti vođe u postojećim, ili novo osnovanim tvrtkama, kulturi, športu, turizmu i inim organizacijama, da se pridruže organiziranoj mreži uspješnih svjetskih lidera., kako bi unaprijedili razvoj i plasiranje proizvoda na svjetska tržišta. Posebno se želi ukazati na značaj u korištenju mentora iz dijaspora, jer oni imaju iskustva i znanja stečena dugogodišnjim radom u svijetu biznisa. Korištenjem njihovih znanja i vještina gospodarstvo bi se brže moglo prilagoditi promjenama, postići svjetsku konkurentnost i na taj način ostvariti veći i brži rast brutodruštvenog proizvoda (BDP) Republike Hrvatske.*

**Ključne riječi:** mentori, lideri, konkurentnost, dijaspora, prosperitet, razvoj

“Success always requires a great effort”<sup>5</sup>

## **1. Introduction**

The success of a country is assessed by economic indicator of GDP per capita, but also by indicators of social cohesion, sport successes, living culture and sustainable economic development.

In order to accomplish all these achievements, an organized economic activity is needed, with successful production competitive on the world market. At the same time, in order to achieve social cohesion by using stimulative measures, all production units should take care of socially responsible business and sustainable development.

Successful development of a country and the quality of life include success in all other activities such as education, culture, sport, and preservation of monumental heritage, ecological and ethnic values.

Compared to its immediate surrounding, especially the former eastern block countries, Croatia is falling behind in economic development, measured by the GDP size and other indicators, which is evident in the following table.

---

<sup>5</sup>“Success always demands a greater effort.” Winston Churchill, Quote –December 13, 1940 to Australian Prime Minister Robert Menzies, *Their Finest Hour*, 1949

**Table 1** GDP size compared to the former eastern block countries, now EU members

No.	Country	Area (in 1000s of square kilometers)	Population (in millions)	GDP per capita (in PPS*)	Average number of foreign languages learnt in secondary schools**	Students studying in other countries***
1	Poland	312.7	38.01	68	1.6	43.5
2	Romania	238.4	19.87	55	2.0	37.5
3	Bulgaria	111.0	7.20	47	1.6	27.2
4	Hungary	93.0	9.86	68	1.2	9.7
5	Czech R.	78.9	10.54	85	1.5	13.0
6	Lithuania	65.3	2.92	75	1.3	15.5
7	Latvia	64.6	1.99	64	1.6	7.3
8	<b>Croatia</b>	<b>56.5</b>	<b>4.23</b>	<b>59</b>	<b>1.5</b>	<b>10.0</b>
9	Slovakia	49.0	5.42	77	1.8	35.4
10	Estonia	45.2	1.31	76	2.0	4.7
11	Slovenia	20.3	2.06	83	1.6	2.7

\*GDP per capita expressed in PPS – life standard can be compared by measuring the prices of certain goods and services in each state compared to income by using common fictional currency which is called purchasing power standard (PPS).

Comparison of GDP per capita, expressed in PPS, gives an overview of the living standard throughout the EU.\*\*

Average number of foreign languages learnt during the second cycle of secondary education (3<sup>rd</sup> degree per International standard education classification).\*\*\*Students of one member state studying in another member state, per state and host state.

Source: Eurostat [http://europa.eu/about-eu/facts-figures/ving/index\\_hr.htm](http://europa.eu/about-eu/facts-figures/ving/index_hr.htm)

By the size of GDP expressed in PPS, Croatia is in the 9<sup>th</sup> place out of 11 states in the table that used to be part of the former socialist block, and are now in the EU system. Bulgaria and Romania fall behind us. By the number of foreign languages learnt during the second cycle of secondary education, we are also in the 9<sup>th</sup> place. Hungary and Lithuania are behind Croatia. Regarding the students of one member state studying in another member state, we are in the 7<sup>th</sup> place. Poland, Romania, Slovakia, Bulgaria, Lithuania and Czech Republic are ahead of us. It is well known that “knowledge of languages becomes more and more important, because globalization encourages contact with people from other states”.<sup>6</sup>

Based on the research by M. Ivanović and F. Ambroš (2016),<sup>7</sup> regarding the coverage of fast broadband Internet access over territory and population, we are at the bottom of the EU states list. Based on the aforementioned indicators and researches, Croatia is falling behind in economic and social development, which directly reflects its citizens' lives and standard.

In order to accelerate economic development, increased activities in all branches of business are necessary. This can be achieved, especially by running a stimulative business policy and using

<sup>6</sup>Eurostat

<sup>7</sup> Ivanovic, M. Ambroš F.: *Fifth International Scientific Symposium ECONOMY OF EASTERN CROATIA VISION AND GROWTH*, 2015, pp. 385-394;



knowledge and experience of proven domestic and globally recognized successful leaders. As mentors, they can contribute with their advices and work to higher competitiveness and advancement of all economic activities.

Croatia has extremely successful experts and scientists from the diaspora, proven by their work and acquired knowledge. At the First Scientific Congress in Zagreb<sup>8</sup> they have shown good will for cooperation and put themselves at disposal. They have shown a wish to get involved into all areas of economic activities, sport, culture and other organizations. With their experience and knowledge, as mentors, they can contribute to the quality of education, rapid recovery of the economy, and the increase of GDP growth. Large majority of them are successful leaders and mentors, well known in the world of science and business.

In the diaspora, there is the Croatian Fraternal Union<sup>9</sup> which consists of successful entrepreneurs well known in the business world, as well as a scientific organization of the Croatian diaspora *Almae Matris Croatiae Alumni* (AMCA)<sup>10</sup>, who offer their help using the already paved trails and their accomplishments, through the network of well known leaders. Their acquired knowledge can be useful to our entrepreneurs from all business sectors in creating competitiveness and advancement into the global market.<sup>11</sup>

Since predominantly young and highly educated people leave Croatia on a daily basis, seeking jobs in more developed states, villages are more and more left empty, and cities without life prospects, especially in the eastern part of Croatia. According to the statistical data, 275.479 people emigrated from Croatia in only 10 years, out of which 58% from eastern Croatia (five counties).<sup>12</sup> Emigration is daily. Trained artisans, engineers, doctors, nurses and people of other professions are leaving for the world, seeking for jobs that will provide them work and decent life for them and their families. A complete turnaround is necessary for Croatia in creation of business policy, as well as in applying new knowledge coming from the leaders in the “network of globally successful leaders and mentors”.

## 2. Who Are Leaders?

Leaders are “average persons who in certain situations accept the role of a leader and now surpass the average members of their group in traits such as intelligence (regardless of how we define it), sociability, persistence, agility, eloquence, energy and flexibility”.<sup>13</sup>

It is considered that leaders, besides their natural intelligence, should be ethical, take care of the community, and run businesses following the models of “socially responsible entrepreneurship” and “sustainable development”.<sup>14</sup>

---

<sup>8</sup>The First Congress of Croatian Scientists from Home and Abroad, in Zagreb and Vukovar, November 15-19, 2004;

<sup>9</sup>Croatian Fraternal Union, <http://croatianfraternalunion.org/>

<sup>10</sup>*Almae Matris Croatiae Alumni*, <http://www.unizg.hr/suradnja/alumni-i-zaklada-sveucilista/alumni/>

<sup>11</sup> Mašek Tonković A., Veckie E., Veckie W. V.: **APPLICATIONS OF PENTA HELIX MODEL ECONOMIC DEVELOPMENT**, Fifth International Scientific Symposium ECONOMY OF EASTERN CROATIA VISION AND GROWTH, pp. 385-394., 2015;

<sup>12</sup>Croatian Bureau of Statistics, for 2015;

<sup>13</sup> B. Kellerman: *Bad leadership, What it is, How it Happens, Why it Matters*, Copyright 2004, Barbara Kellerman, p.35

<sup>14</sup> F. J. Radermacher: *Ravnoteža ili razaranje, Eko-socijalno-tržišno gospodarstvo kao ključ svjetskog održivog razvoja*. INTERCON 2003. p. 110.

“Leaders are persons who rule or guide or inspire others.”<sup>15</sup> In the roles of mentors they inspire others in realizing achievements in order for them to become leaders one day. These are successful leaders in all activities they organize, and realize achievements among competition no matter which activity it is about.

Being a leader is something incorporated into the character of an individual at birth. However, as Malcolm Gladwell said, "In order to develop extraordinary skills and ability in person's profession and to become globally recognized, it takes 10,000 hours of intensive work" . Their time is 24 hours a day oriented to achieving their visions, ideas and set goals. Their life is equated to their work and achievements they accomplish.

Such persons know no obstacles, but only solutions and realization of set goals. When retiring, they continue their lives thinking how to create, how to improve something and how to be in action. They join leadership clubs in order to get involved as mentors, help in solving problems, usually companies in distress, but also those companies that strive to achieve more and develop from small to medium-sized, or from medium-sized to large companies or corporations.

These are persons who successfully manage companies, cultural institutions, sport organizations, kindergartens, schools, colleges, faculties and universities, even the whole states they lead. Leaders are persons who are capable to successfully run a state on the principle of a good businessman, who propose stimulative measures in order to achieve prosperity of the people they lead.

Together with a network of associates, through economic development and “eco-social-market economy as a key to global sustainable development”<sup>16</sup>, they achieve success worthy of state leaders, by doing the following:

- stimulating production that will be competitive on the global market;
- providing infrastructure and conditions for sustainability(If you build it, we will come),
- organizing the community for the purpose of sustainable development,
- taking care of education of young people at every level,
- encouraging new investments and creation of new jobs by stimulating measures,
- taking care of the environment, protection of water, nature, monumental heritage, and ecological and ethnic values of the micro- and macro-region,
- stimulating and organizing sport activities, and creating cultural facilities with the purpose of development of tourism,
- all other activities that contribute to development and achieving a better life for their citizens.

---

<sup>15</sup>[www.vocabulary.com/dictionary/leader#s51681](http://www.vocabulary.com/dictionary/leader#s51681) 2016;

<sup>16</sup> F.J.Radermacher, Ibidem

At the peak of their careers, leaders often have a need for new challenges and change in their current businesses, tired of the existing successes and achievements. They are driven by new challenges of creating new features in order to experience a new struggle to gain and achieve success. They join the so called “network of globally successful leaders and mentors” so they can take new roles in their activities. These roles are the roles of mentors who became experts based on their many years of experience and achievements. They know how and in what way they can encourage others in fulfilling their visions and accomplishments. These leaders, who become mentors, take the task of helping others young, inexperienced entrepreneurs or leaders in crisis or failures of any kind. In their new roles of mentors, consultants and trainers they advise in finding exits from problematic situations and possibilities for new paths, new visions in achieving economic recovery.

Davor Pavuna, a well-known physicist, at the Lider congress<sup>17</sup> puts passion in the first place for a leader and quotes Beethoven: “To play a wrong note is insignificant; to play without passion is inexcusable.” In the second place he emphasizes “unique”, in the third “integrity”, in the fourth “vision is a path”, in the fifth “choose better than yourself”, in the sixth “flexibility”, in the seventh “persistence”, and then the power of belief that they do exactly what is set as a goal. According to J.C. Larreche<sup>18</sup> great leaders “opt for motivating vision, adopt the plan to achieve it, and lead the organization in accomplishing it”.

### **3. Who Are mentors, Who Can Be a Mentor?**

Mentors are persons who have the ability to transfer knowledge to others, based on their experience in jobs they ran, theoretical knowledge, open-mindedness and vision. In that way they help the young, beginners, or inexperienced leaders to achieve the highest levels of success in businesses they run. They show them new horizons and possibilities for success based on their many years of experience and successful work.

Mentors are persons who have special abilities and knowledge in running businesses they have chosen. They have proven themselves with their accomplishments, and after some years in running businesses and achieving success, usually after retiring, they often re-activate themselves and engage in new accomplishments. These are the leaders well-known for achieving their ideas and visions, capable of and resourceful in overcoming problems and obstacles in order to achieve the set goals again.

There are not many of such mentors in population. These are the former leaders who cannot make peace with their age, there are no retirements for them or “enjoying the life” by the usual notions. For them, enjoying the life means to re-create and take up new challenges, correct the mistakes of others, create new visions in order to succeed again in the business they took up. Mentors have to be complete persons in considering all aspects of the problems in business they took up. Except technical, ethical, eco-social, sport and other activities they took up, they need to know how to read the balance sheet, understand economic indicators and principles resulting from them, and warn to respect economic laws and sustainable development of the state.

When talking about his book “The Secret of our Success” Dr Joseph Henrich stated: ‘We are primed to learn from each other and build our collective intelligence.’<sup>19</sup> Joining two leaders, an experienced

---

<sup>17</sup> Prof. Davor Pavuna, Ph.D., ETH Zurich, Lider congress, „How to Succeed“, in Zagreb, May 5, 2016;

<sup>18</sup> J.C. Larreche: *Momentum EFEKT, Kako potaknuti izniman rast. Lider*, in Zagreb, 2009, p. 256;

mentor with a successful entrepreneur is an example of the transfer of knowledge, experience and social progress. "As social beings, we could not survive on our own. For generations we pass on the existing knowledge, broaden our cognitions and imitate others, and through that process the mankind has risen above other living beings on this planet."

Robert J. Sternberg<sup>20</sup> found out in his research that there are three elements in cognition of the process of thinking and balance with the environment. Without the application of "practical intelligence" one cannot become a successful leader in spite of having an analytical and creative intelligence. Malcolm Gladwell describes "that successful leaders have professional abilities and personal characteristics ('soft skills'), but through 'practical intelligence' they show with their own example and personal charisma (motivating others).<sup>21</sup> Technical and professional abilities are learned skills. Personal characteristics or 'soft skills' are abilities of successful interaction with others and are a part of genetic predisposition. Mentors have an important influence on successful leaders in developing their professional and personal abilities. "*Mentoring focuses on the individual and the conversation transcends more broadly into the general work life. This means the interaction can be more philosophical, more focused on attitudes and behaviours than on specific skills.*"<sup>22</sup>

Based on the research of Julian Barling in the book "The Science of Leadership",<sup>23</sup> progress in neurological science enabled scientists to find out that only 30 percent of genetic predisposition influences someone becoming a leader. This percentage shows the importance of genetic factors, but other factors, that is environment and family influence, have an important role in forming a leader. When a person comes into a leader position, the role of a mentor is critically important in improving business and motivation of employees through 'soft skills'.

As a well-known authority in comparative mythology, Joseph Campbell<sup>24</sup> compared myths and legends of various cultures and synthesized them into the usual phases of hero's life. According to Campbell's publication *The Hero's Journey*, events in the life of a hero (in our case, a leader) go through a circular cycle, stage by stage, with the beginning at the top and progressing clockwise. On that transformation path, a hero needs physical, emotional and psychological strength to solve problems and reach a goal. After making a firm decision, in order to continue along the path it is necessary to find a mentor, experienced and reliable advisor, who guides and motivates the hero in preparing for further development and making remarkable achievements. After successfully reaching the goal, *The Hero's Journey* leader repeats the circular cycle in making new achievements. The theory of Joseph Campbell, *The Hero's Journey*, inspires authors as a theme in books, movies, cultural creativity, science and in application of a mentor role. Screenplays and movies are created based on Campbell's

---

<sup>19</sup>Source: Retrieved on March 6, 2016, CBC Quirks & Quarks, interview with Dr. Joseph Henrich, author of book "The Secret of our Success", Princeton University Press (2015); In his book "The Secret of our Success" Dr Joseph Henrich stated: 'we are primed to learn from each other and build our collective intelligence - our culture'. We are social learners and our skill to imitate excels our culture to build on the older knowledge.

<sup>20</sup> Robert J. Sternberg, *Why Smart People Can Be So Stupid*, 2003;

<sup>21</sup>Malcolm Gladwell, *Outliers, The Story of Success*;

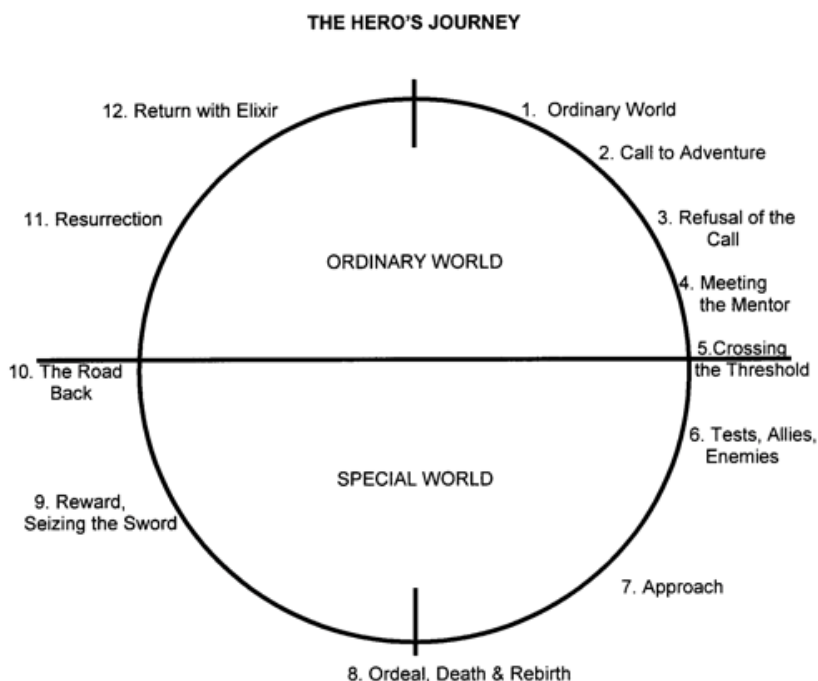
<sup>22</sup>*The Difference between Coaching and Mentoring*, December 2011, Forbes BrandVoice, Bradeep Chakrawarty

<sup>23</sup>Barling, Julian: *The Science of Leadership: Lessons from Research for Organizational Leaders*, Oxford University Press, January 2014; <https://smith.queensu.ca/magazine/winter-2014/features/decoding-leadership-research>

<sup>24</sup> Source: Joseph Campbell, *Hero with a Thousand Faces*, Bollingen Series XVII (Princeton University press, 1949), p. 245;

heroes and leaders (Star Wars, Indiana Jones, The Matrix, Batman, American Graffiti, Disney's The Lion King and others.)

*Figure 1 The hero's journey*



Source: Joseph Campbell, *Hero with a Thousand Faces*, Bollingen Series XVII (Princeton University press, 1949), p. 245;

Alongside a successful mentor usually comes a trainer, whose duty is to train and teach employees to work on a new idea and vision when achieving a set goal.

Mentors help company leaders to think 'outside of the box' and find new possibilities for business growth and for staying competitive on the global market. Mentorship has a role in other areas of social interaction, in sport, education, and in search for new endeavors. In these roles, mentors help people to find hidden talents, and retirees to start new activities and hobbies. After retiring, leaders can find themselves in a new role of mentors, tutors who pass their knowledge to promising talents and in that way help in creating a new generation of experts. The eastern region and the whole of Croatia should follow examples of importance of mentorship in global economic development. Central government,

Chamber of Economy and associations of academics should take initiative in creating the network of potential leaders and participate in starting up mentorship programs.

#### 4. Case Study

##### 4.1. Mentors and Executive Peer Networking <sup>25</sup>

Leaders in top business positions have to think ‘outside of the box’ and understand the importance of peer associations where they can share and exchange knowledge and experience. As members of successful leaders’ association they can use external consulting, mentorship and access to the global network of business leaders. An example of a leading global association of leaders is The Executive Connection (TEC), globally known successful network of business people and company owners.<sup>26</sup> This association connects business leaders with highly qualified mentors, to jointly find opportunities for advancement of companies on the hyper-competitive global market. TEC finds experienced, older mentors who used to be leaders and decided at the peak of their careers to become mentors and find their new purpose in transferring their experience and knowledge when counselling young successful entrepreneurs. Members of the association participate in monthly expert meetings, which are coordinated by the association’s delegates. Each member has its own mentor with whom they analyse the execution of planned tasks in advancement of a company’s business.

##### 4.2. Cirque du Soleil<sup>27</sup>

Cirque du Soleil, founded in 1984 as a circus without animals with an avant-garde scenography, music, acrobatics, extravagant costumes and fun, thanks to the mentorship of retired acrobats, grew into a conglomerate of 4000 employees of 40 nationalities who speak 25 different languages.

Acrobats, contortionists, circus performers have a short active career and retire relatively early. In order to fill in the places for talented performers, Cirque du Soleil founded the Cirque du Monde and united the schools of mentors in over 50 states. Retired circus artists and performers return to their homelands and take the roles of mentors in making a new generation of circus acrobats and performers. ‘*The Cirque has more than 20,000 people in its database*’,<sup>28</sup> an assortment for choosing new performers.

---

<sup>25</sup> “CEO peer groups aren’t just for entrepreneurs. As the pace of change picks up, even the most experienced leaders are finding themselves facing problems that lie outside their expertise. They, too, are increasingly relying on their peers to help them stay abreast of market and technological shifts. Joining a peer group, it seems, can make life at the top a good deal less lonely.” Source: Fusaro, Roberta, Peer to Peer, Harvard Business Review (September – October 2000) [https://hbr.org/2000/09/peer-to-peer?cm\\_sp=Article-\\_-Links-\\_-Top%20of%20Page%20Recirculation](https://hbr.org/2000/09/peer-to-peer?cm_sp=Article-_-Links-_-Top%20of%20Page%20Recirculation)

<sup>26</sup> “Executive Mentors have already ‘been there and accomplished that’. They are waiting to share their knowledge with others.”

Source: McElroy, Karen, (January 29, 2014), *How can I ask for an Executive Mentor?*  
Retrieved on March 15, 2016.

<sup>27</sup> The excerpt by authors Mehrdad Baghai and James Quigley examine the artistry and teamwork in their book ‘*As One: Individual Action, Collective Power*’. <http://www.fastcompany.com/1724123/cirque-du-soleil-very-different-vision-teamwork> Industry in the Post-transitional Economy’ International Journal of Cultural and Creative Industries, February 2011 [file:///C:/Users/ODS00739/Downloads/110\\_file\\_1.pdf](file:///C:/Users/ODS00739/Downloads/110_file_1.pdf)

<sup>28</sup> Annie Bouchard, 1972, *Community Worker's Guide: When Circus Lessons Become Life Lessons*, Page 15, Chapter 3, *Cirque du Monde: The Social Circus Program of Cirque du Soleil* the Canadian-based Cirque du

### 4.3. Mentoring in Hobby Farming<sup>29</sup>

Revitalization of farms and villages could stop the existing trend of leaving agricultural areas and seeking possibilities for employment in urban industrial areas. In the western world there is a trend of avoiding the stress of city life and taking up an extra activity of hobby farming and growing healthy eco food.<sup>30</sup> Connection with farmers allows the mentorship and transfer of traditional knowledge as a way to help in starting a hobby farm. Promotion of sustainable organic food growing by using social networks enables association of hobby farming entrepreneurs and mentors-volunteers. Hobby farms are secondary activities to their owners, so it is important to have a telecommunication link between the hobby farming entrepreneurs and the outer world and home business offices, as well as a transport connection with the city and introduction of fiber optics connections into rural areas.

In Japan, they enable retired people to move out of the cities and leave their flats and houses to the younger generations. They are provided with organized villages with gardens, cultural centres, libraries, socializing space and medical care. Various fun activities are also organized, like learning how to use computers, handicrafts, or gardening. Everyone can choose what they want to do. There is an example of retired people who moved out to villages and started growing haskap (Siberian blueberry) and in that way complemented their living budgets.<sup>31,32</sup>

### 4.4. Coaching and Mentoring in Sports

Roles of mentors and coaches are different in the way they guide a person towards reaching their personal goals. Sports training is specific for each sport in teaching the basics of the game, responsibilities and abilities. A coach acts as an instructor in improving professional skills (hard skills). Mentors have an additional role in player's development through improving their strength, developing a strong personality and stability in responsible behaviour. The father of Ivica and Janica Kostelić was an extremely successful mentor who managed to turn his children into world and Olympic champions in alpine skiing.<sup>33</sup> Čiro Blažević and in the recent years Slaven Bilić are examples of

---

*Soleil started to approach Mongolian performers in 1992, not long after the transition began.* Author: Enkhbold CHULUUNBAATAR 'Mongolian Circus

<sup>29</sup> A Coach teaches you tools and techniques for helping you do things better. *But a Mentor exists in the area that help bring your own ideas to fruition, by supporting what you truly want to achieve. A great Mentor guides you, but does not tell you what to do. They have proven experience, and can bring an objective perspective to the table.*

<sup>30</sup> *Mentoring is customarily a planned pairing of a more skilled or experienced person (usually in the same field of work) with a less experienced person.* Source: University College London England (UCL), March 8, 2016, Website, <http://www.ucl.ac.uk/hr/od/coaching/differences.php>

<sup>31</sup> *Origin of Haskap: <https://haskapa.com/about-haskap/origin-of-haskap/> 'Small plantages of haskap in Japan have had a role of a sort of retirement fund in recent history. Since haskap-related products have very high prices on the market in Japan, and a relatively small area can provide satisfactory yields without a lot of physical work, people have been building small plantages during their service life which provided them an extra income when retired.'*

<sup>32</sup> *<http://www.prirodna-hrana.info/sinonimi/haskap/kamcatska-borovnica/> 'An acre of haskaps (about 800 plants) should yield about 2,500 kilograms of berries in its first-year crop, and as much as 5,000 kilograms by maturity in year seven. Although price estimates are speculative, some growers are estimating revenue of about \$9,000 per acre from mature haskaps.'*

Source: <http://albertaventure.com/2010/09/this-could-be-a-berry-sweet-deal-little-known-haskap-has-the-potential-to-revive-alberta%E2%80%99s-fruit-industry/>

<sup>33</sup> Ante Kostelić, active athlete and handball coach, was a day-to-day mentor and coach to his children in skiing. Thanks to this, his daughter Janica Kostelić is a winner of four Olympic gold medals and two silver medals, became the most

successful mentors, who can motivate players and turn average teams into successful ones. They use their positions of club managers to guide specialist coaches to develop players' game skills. As mentors, they have a role of leading and motivating the whole team to perform outstandingly. They influence the players to reach their full potential and develop into world-class athletes. The secret of success is in basic training of talented players, but the real progress happens when world-class mentors take over the further development from the coaches. World-class athletes go through their basic training in their own countries. Baseball players of the Dominican Republic<sup>34</sup> are known as one of the best in the world, but they are trained by their local veteran mentors, retired baseball players. Local retired mentors in Polynesia coach young talents and players from Polynesian islands are among the best in American football league.<sup>35</sup> It seems that the most popular sport is an integral part of social and tribal structure in countries like Croatia, Dominican Republic and Polynesian islands, where a strong tradition of mentorship exists.

#### 4.5. Coaching and Mentoring in Factory<sup>36</sup>

Arriving to Canada, after he graduated at the Mechanical Engineering Faculty in Zagreb, he got a job in chemical industry as an engineer. He worked several years in his field, but he constantly thought of founding his own company and starting his own business. This is what he achieved, gradually developed, expanded business and managed to create a reputation of a successful manager and entrepreneur in his field. As the time for retirement came close, he decided to convert his firm into a joint stock company. He offered his engineers and other employees shares according to their

---

successful female alpine skier at the Olympic Games. Ivica Kostelić won four silver medals at the Olympic Games, and one each gold, silver and bronze medal at the World Championships. In Alpine Skiing World Cup competitions from 2002 to 2013 he won five small and one big Crystal Globe.

<sup>34</sup>Social responsibility is one of the main tenets of Major League Baseball in the Dominican Republic and this commitment has helped to spur many projects that give back to a country that has produced many great players. [http://mlb.mlb.com/dr/social\\_responsibility.jsp](http://mlb.mlb.com/dr/social_responsibility.jsp)

Through baseball fundamentals, we focus on developing important life skills like leadership and problem solving, model character values like teamwork and respect, and even foster authentic cultural exchange where we create opportunities for mentorship and personal growth. Ultimately, passion for baseball is a foundation for change. With players like **Ozzie Virgil** (the first Dominican to ever play major league baseball in the United States) or Hall of Famer **Juan Marichal**, Monte Cristi counts a number of baseball legends amongst its local heroes. Former major league player and Monte Cristi resident, **Ozzie Virgil** serves as the program's honorary chairperson to make sure we meet local needs, providing meaningful education and maximizing impact. <http://outreach360.org/programs/baseball-program/Pedro> Martinez was inducted into Baseball Hall of Fame and he in his speech recognized importance of mentorship of baseball new generation players: "Right away I have to thank Avila, Rafael Avila, the man with the biggest history of all players. Coming out of the Dominican Republic, just in case you didn't know. Rafael Avila, my first mentor and my friend, he made more than 50 players into the Big League. Rafael Avila, an icon from Latin America, and a symbol in baseball and the Dominican Republic, and my first coach was always there to take the baby steps that I needed to take to become better every day." <http://screengrabber.deads핀.com/pedro-martinez-talks-dominican-pride-in-stirring-hall-o-1720276398>

Senior baseball players from Dominican Republic take care of their own as mentors, teachers and guardians to younger talents. Pedro Martinez supported younger player David Ortiz and then David became mentor to another generation player Henley Ramirez.

Source: Big Papi: My story of Big Dreams and Big Hoits, David Ortiz with Tony Massarotti, St. Martin's Griffin, New York, p. 4

<sup>35</sup>It's a cultural mindset that's been passed down from generation to generation, with values that teaches respect, love and passion for everything they do'. Source: Elite Daily, September 2014, Why Polynesians are genetically engineered

<sup>36</sup>Walter, Vlad Veckie, Unified Engineering.com Corp, Canada, 2016;



qualifications, years of working and their contribution to the company, and he, invited by “a club of associated leaders and mentors”, engaged himself in new challenges, mentorship activities.

## 5. Conclusion

Company leaders are alone on the top of the organizational pyramid and are continuously challenged to lead companies to prosper and operate at the peak performance. They realize that they cannot accomplish it on their own. Internal interaction and support from company management is limited to day-to-day operation and any attempt for change is a step out of management comfort zone. Therefore smart company leaders realize the importance of outside help and the role of experienced mentor. Mentors help company leaders to think ‘outside of the box’ and find new opportunities for enterprise to grow and compete on the global market. Mentorship takes a role in other areas of social interaction, in sports, education and in search for new endeavours. In another role mentors help people to find their hidden talents and retirees to start new activities and hobbies. Leaders, once they retire find a new role as mentors to guide, tutor and pass their knowledge to promising talents to bring a new generation of professionals. Eastern region and the whole country of Croatia should recognize importance of mentorship in world economic development. Government authorities, Chamber of Commerce and academic alumni associations should initiate a network of potential leaders to participate in launching mentorship programs.

## REFERENCES

Almae Matris Croaticae Alumni, [http://www.amcaqc.org/Pub/Pub\\_Front.asp?](http://www.amcaqc.org/Pub/Pub_Front.asp?)

Anastasopoulos, V. (2005): *Passing the torch*. CIM Bulletin, 98(1085), 1-8. (Shafer et al., 2000).

Joseph Campbell (1949): *Hero with a Thousand Faces*, Bollingen Series XVII, Princeton University press, p. 245.

Enkhbold CHULUUNBAATAR ‘Mongolian Circus ‘the Canadian-based Cirque du Soleil started to approach Mongolian performers in 1992, not long after the transition began.’

Barling, Julian (2014): *The Science of Leadership: Lessons from Research for Organizational Leaders*, Oxford University Press

Ma D. M., & Jordan-Evans, S. (2003): *From Assets to Investors*. T+D, 57(4), 40-50. Retrieved March 22, 2007, from the EBSC (host database)

Malcolm Gladwell (2000, 2002): *The Tipping Point; How Little Thing Can Make a Big Difference*, Copyright, Malcom Gladwell

Malcolm Gladwell (2008): *Outliers*, The Story of Success is the third non-fiction book written by Malcolm Gladwell and published by Little, Brown and Company

Dr. Joseph Henrich (2015): *The Secret of our Success*, Princeton University Press

Ivanović M., Ambroš F. (2016): **THE ECONOMIC IMPACTS OF BROADBAND ACCESS INVESTMENT IN CROATIA**, Fifth International Scientific Symposium ECONOMY OF EASTERN CROATIA - VISION AND GROWTH

McElroy, Karen, (2014): *How can I ask for an Executive Mentor?* Retrieved March 15, 2016.

B. Kellerman (2004): *Bad leadership, What it is, How it Happenes, Why it Matters*, p.35

J.C. Larreche (2009): *Momentum EFEKT, Kakopotaknutiiznimanrast*, Lider, Zagreb, p.256.

Mašek Tonković A. Veckie E., Veckie W. V. (2015): **APPLICATIONS OF PENTA HELIX MODEL OF ECONOMIC DEVELOPMENT**, Fifth International Scientific Symposium ECONOMY OF EASTERN CROATIA - VISION AND GROWTH, pp.385 - 394;

Joy McGovern (2001): et.Al: *Maximizing the Impact of Executive Coaching*, The Manchester Review, Volume 6;

Michelman, Paul (2005): *What an Executive Coach Can Do for You*, Harvard Business Review

F. J. Radermacher: *Ravnoteža ili razaranje, Eko-socijalno tržišno gospodarstvo kao ključ svjetskog održivog razvoja*. INTERCON 2003;p. 110;

Robert J. Sternberg (2008): *Why Smart People Can Be So Stupid*;

<http://www.vistage.com/>) University College London England (UCL), March 8, 2016, Website

<http://www.vistage.com/>)

<http://croatianfraternalunion.org/>

<http://www.unizg.hr/suradnja/alumni-i-zaklada-sveucilista/alumni/>

[www.vocabulary.com/dictionary/leader#s51681](http://www.vocabulary.com/dictionary/leader#s51681) 2016.

Translator ToolkitWebsiteTranslatorGlobal Market Finder

<https://haskapa.com/about-haskap/origin-of-haskap/>

<http://outreach360.org/programs/baseball-program/>With players like Ozzie Virgil (the first Dominican to ever play major league

<http://www.prirodna-hrana.info/sinonimi/haskap/kamcatska-borovnica/>

<https://smith.queensu.ca/magazine/winter-2014/features/decoding-leadership-research>

<http://www.ucl.ac.uk/hr/od/coaching/differences.php>

**Jasenska Vizentaner, M.Sc.**  
Phone: ++385 91 202 31  
E-mail: jvizentaner@gmail.com

**Sabina Šegula, Ph.D.**  
Biotechnical Center Naklo  
Strahinj 99, 4202 Naklo  
Slovenia, EU  
Phone: ++386 4 277 21 00  
E-mail: sabina.segula@bc-naklo.si

## **CREATIVITY OF FLORIST BUSINESSMEN IN EASTERN SLAVONIA AND BARANJA**

### **KREATIVNOST FLORISTA KAO POSLOVNIH LJUDI U ISTOČNOJ SLAVONIJI I BARANJI**

#### **ABSTRACT**

*Florists in eastern Slavonia and Baranja are artisans and micro entrepreneurs who must retain its competitiveness on the market through creativity. With this survey the authors have checked how creative florists are in personal education, the introduction of new materials and techniques in their work, marketing and branding.*

*This paper analyzes the survey data that were fulfilled by the employees and owners of flower shops across the eastern Slavonia and Baranja and data from Biotechnical Center Naklo from Slovenia, about education of florists in eastern Slavonia and Baranja. The employees and owners of the flower shops answered the questions concerning: additional activities in flower shops, the use of new materials with a focus on tree species and chemicals which keep back the colour and tone, the use of new techniques, marketing activities, satisfaction with current business and formal and informal education.*

*Most florists from eastern Slavonia and Baranja are not educated well, don't accept modern techniques and materials. Also, most florists aren't creative in marketing and branding. Current state of florists' creativity in eastern Slavonia and Baranja isn't satisfactory.*

*Aim of work: to determine the current state of florists' creativity in eastern Slavonia and Baranja and establish creative activities florists have done on increasing competitiveness.*

**Keywords:** floristry, creativity, competitiveness, marketing, branding, formal and informal education, new floristic techniques, new botanical materials, survey

#### **SAŽETAK**

*Floristi u Slavoniji i Baranji su obrtnici i mikro poduzetnici koji moraju zadržavati svoju konkurentnost na tržištu kroz kreativnost. Osmišljenom anketom autorice su provjerile koliko su kreativni floristi u osobnoj edukaciji, uvođenju novih materijala i tehnika, marketing i brendingu.*

*U radu su analizirani podaci ankete koju su ispunili djelatnici i vlasnici cvjećarnica diljem istočne Slavonije i Baranje te podaci Biotehničkog centra Naklo iz Slovenije o edukaciji florista istočne Slavonije i Baranje. Djelatnici i vlasnici cvjećarnica odgovarali su na pitanja koja se tiču: dodatnih aktivnosti u cvjećarnicama, uporabe novih materijala s naglaskom na dendrološke vrste i kemijska sredstva za održavanje boje i tonusa, uporabu najnovih tehnika, marketinške aktivnosti, zadovoljstva trenutnim poslovanjem te formalnog i neformalnog obrazovanja.*

*Većina florista istočne Slavonije i Baranje se ne educira, ne prihvaća moderne tehnike i materijale, dovoljno se neformalno obrazuje. Također, većina florista nije kreativna u marketingu i brendingu. Sadašnje stanje kreativnosti florista istočne Slavonije i Baranje nije zadovoljavajuća.*

*Cilj rada: utvrditi sadašnje stanje kreativnosti floristike u Slavoniji i Baranji te utvrditi kreativne aktivnosti koje cvjećarnice provode na podizanju konkurentnosti.*

***Ključne riječi:*** floristika, kreativnost, konkurentnost, marketing, brending, formalno i neformalno obrazovanje, nove florističke tehnike, novi floristički materijali, anketa

## **1. Introduction**

According to STATE, O & IORGULESCU, MC (2014), in today's unstable business environment, success depends on the ability of adapting to changes. In order to ensure a long-lasting business success, it is necessary to develop a culture of innovative creativity. We shouldn't forget that today's customers are more creative using online technology (WU, WEN, DOU & CHEN, 2015). Creative customers will accept physically distant branded products. Through research of outdoor advertising with the help of neuroscience (WILSON, BAAK & TILL, 2015), it has been shown that promoting creative messages, size billboards and knowledge of the brand will enhance the intensity of branding attracting attention and memory. According to SUNGHOON (2013), the creative use of innovative media will rise up the positioning of the customers. Using creative activities creates a positive effect on the brand positioning.

Analyses creative marketing and branding of flower shops all around the world are going from the type of flowers and way of their advertising (RHIE, 2010), to paint the walls and furniture in flower shops (김지선; 김동찬, 2014) which also contribute to branding. The characteristics of online customers of floristic shops such as gender, age, marriage status, occupation, payment methods, amount of money spent on floristic expressions are being investigated in South Korea (PAK, 2012). The generational research was made in order to compare the habits of using floristic products through younger and older generations and their acceptance in different ways of advertising flower shops (RIHIN, YUE, BEHE & HALL, 2011). It is significant that the younger generation look for floristic products that are trendy, unique, convenient, long-term and not too expensive.

Florists are artisans and micro-entrepreneurs. They are very creative in making floristic expression. There are bouquets, arrangements, wreaths and other floristic expressions, each different from the previous one. There is almost no equal floristic product because they vary in the shape, size, colour, type, quantity of flowers and greenery to the type and colour of decoration, but also they vary in techniques of making. Floristic product depends on the knowledge and the florist's inspiration, as well as the market's choice of flowers and greenery.

Education, marketing and branding are interlaced in floristic daily. Through informal education, florists follow new materials, techniques, combinations of colours and shapes. New ideas which come with informal education will bear new, better ideas. Successful small and micro businessmen

need to know how to present their creativity to the public and how they will make their company recognizable with their knowledge and skills.

To assume is that creativity in one area generates creativity in other areas. Creativity design should support creativity by the use of materials and techniques, marketing and branding. Florist will work to his own education in order to make all this functional.

Flower shop owners complain that there is less work and money. Some flower shops were closed, some have less products and exposed flowers. On the other hand, some flower shops aren't available for a long time and must refuse future brides. Four new flower shops in Osijek and two near Osijek have been opened in the last two years.

The purpose of the research was to explore the universal flower shops' creativity and try to notice the problems. The research's topic is florists' business creativity because that allows company or handcraft to be different and lead them to a higher level of business. The research plan was to interview the owners or employees of florist shops in eastern Slavonia and Baranja and to check creativity in floristry, floristic marketing and branding, and check how educated florists are.

## **2. Materials and methods**

The survey included 30 participants from eastern Slavonia and Baranja. The survey was anonymous in order to be more credible. The authors devised survey to investigate: general information by owners or employees of micro enterprises and handcrafts, formal and informal education that owners or employees have passed in the last two years, the useful creativity of new plants species, materials, technology, flower shops marketing and branding.

### **2.1 General information**

Authors collected information about questions which are relative to the general data: inhabited place in which there is a flower shop, if the person who filled the survey is the owner or employee, and if they are male or female.

### **2.2 Education and professional knowledge**

There isn't organized informal education for florists in Croatia. The nearest high-quality education is in Naklo, a suburb of Kranj in Slovenia, where florists were educated twice a year for three days. Biotechnical Center Naklo educates florists through Flower Academy for five years. Through workshops and presentations, florists learn about new techniques and materials, and even create their own floristic expressions. Thus, the authors gathered data of eastern Slavonia and Baranja florists' education in BC Naklo.

Questions which refer to education enabled information: school qualification, formal and informal education of florists in the last two years, if participants have floristic formal education and masterful floristic exam.

Knowledge is acquired by watching professionals and working with them. Participants responded to questions: if they followed up floristic competition alive, if they recognized the names of the most famous florists of Europe, were they at any workshops in Croatia and Slovenia. Participants should write the names of florists they follow on Facebook.

Spiral arranging is extremely important to create a bouquet. Today, the skill of spiral arrangement is really known only by some florists in eastern Slavonia and Baranja. Most of the teachers who teach and do practical training in schools don't know spiral arranging. Therefore, the authors questioned if the florists knew how to arrange the spiral and where the florists learned spiral arranging.

### **2.3 Marketing**

We live in the 21st century in which computer technology has the increasing role. The same is with marketing. Florists from all over the world take pictures of their bouquets and arrangement of wedding halls. Future brides first explore the online market, no matter if it is a web site or Facebook pages or profiles. Wedding portals offer possibility for flower shops to advertise, and florists distribute leaflets and business cards at fairs. Wedding magazines are present on the market and offer opportunities to advertise.

Advertising is possible on the public vehicles, but also on the billboards. Therefore, the participants respond if they advertise through: business cards, flyers, billboards, magazines, or online through website and Facebook, or in any other way. Those who have declared themselves to have a Facebook page, answered the question how often they publish their floristic work on this page.

### **2.4 Branding**

A florist can create a brand, among other things, participating in national and international competitions, participation in fairs, shows and exhibitions.

Participants answered the questions whether they participated in the florist competitions at home and abroad in the last two years, how often they expose in trade fairs, did they make floristic exhibition or participated in fashion shows and how they worked on marketing and branding, except mentioned.

### **2.5 The use of new materials, techniques and courageous colour combinations**

Florists can better prepare bouquets, arrangements, wreaths and other expressions only if they follow the development of floristic techniques and if they introduce new materials. They must follow modern colours and shapes too. Certain chemicals provide higher quality of products because they extend the duration of flowers. With the introduction of new contents to their offer, they become positively different and recognizable. Therefore, the authors asked: if new floristic techniques were introduced in the last two years and if they were, which ones; if new species of flowers were introduced in the last two years and if they were, which ones; were there other materials which aren't a plant introduced. Participants answered the questions if they used the chemicals that extend the duration of flowers: Quick Dip Finish Touch and food for flowers. The authors were interested in courageous combination of colours they used.

### **2.6 Professional success and satisfaction?**

Creativity in creating floristic expression, creativity in education, marketing and branding result with professional success and professional satisfaction. The most concrete questions about business creativity were: what was your most creative floristic product and have you designed your own new floristic product?

Florists answered the question if they are satisfied with their professional work and success.

### 3. Research results

#### 3.1 General Information

The survey was fulfilled by owners or employees of 30 flower shops (Table 1)

**Table 1** Flower shops included in the survey.

Place	Number of flower shops
Osijek	16
Višnjevac	1
Tenja	1
Antunovac and Ernestinovo	1
Antunovac, Kneževi Vinogradi, Tenja	1
Čepin	2
Đakovo	4
Vinkovci	1
Bilje	1
Beli Manastir	2
Total	30

Source: authors

From 30 people, 77% are the owners, and 23% are employees. 93% are females and 7% are males.

#### 3.2 Education and professional knowledge

According to Biotechnical centre Naklo, 2 people are participating in education for the last two years, but only 1 of them is a florist who works in a flower shop, and is the owner of the flower shop.

Florists in eastern Slavonia and Baranja generally have a secondary school education (90%), while 10% have a university degree (Table 2). College educated florists graduated management, teaching faculty and agricultural faculty.

**Table 2** School qualifications of florists from eastern Slavonia and Baranja.

School qualifications	Secondary school	College education
Participants No.	27	3
%	90	10

Source: authors

23 participants, 76.7%, said that they had floristic training and that they are florists - arrangers. 7 people, or 23.3% have floristic formal education. 7 participants or 23.3%, have floristic masterful exam and 23 participants or 76.7% don't have.

13 people attended non-formal education in the field of floristic in the last two years, or 43.3%, and 17 people or 56.7% didn't. Florists who have non-formal education were non-formal educated on the wholesales of flowers and on presentations at wedding trade fairs. Only two participants attended the floristic courses at Flora Hungaria and Flower Academy in BC Naklo. Floristic competitions are being tracked by 10 participants or 33.3%, while 20 participants or 66.6% aren't.

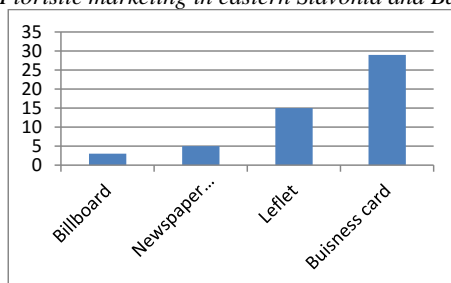
Only 14 participants or 46.7% answered that they learned spiral composition of bouquets on practical work. 10 participants or 33.3% didn't learn spiral composition on practical work, and 6 participants or 20% didn't answer the question. About knowledge of spiral composition of flowers, 5 participants or 16.7% said that they didn't know how to arrange the spiral, 8 participants or 26.7% were self-educated, 1 participant or 3.3% learned spiral on the internet, 7 participants or 23.3% learned spiral in courses, 6 participants or 20.0% learned spiral on practice or workplace and 3 participants or 10.0% didn't answer.

That Lukas Jansen is famous floristic teacher knew 11 participants or 36.7%, and that Neil Whittaker is florist knew only 9 participants or 30%. For Gregor Lersch, German florist knew 12 participants or 40.0%. 1 participant or 3.3% was at the workshops of Lukas Jansen, 2 participants or 6.7% were at Gregor Lersch's workshops and Neil Whittaker's workshop, 11 participants or 36.7% responded that they didn't follow well known florists on the internet or didn't know, 6 participants or 20% didn't answer the question, and 14 participants or 43.3% wrote some of the famous names.

### 3.3 Marketing

29 flower shops or 96.7% have a business card. 15 flower shops or 50% have leaflet 25 participants or 83.3% don't advertise in newspapers and magazines. From 5 participants who declared to be advertised, 1 participant or 3.3% is advertised by himself in local newspapers, and 4 participants or 13.4% in the magazines with the wedding theme. 27 participants or 90% weren't advertised by billboard (histogram 1).

**Histogram 1** Floristic marketing in eastern Slavonia and Baranja – part 1.



Source: authors

12 participants or 40%, didn't have internet page, and 1 participant (3.3%) didn't answer. 17 participants or 56.7% said that they had internet page. 21 flower shops or 70% had Facebook page (histogram 2). Participants who published their floristic work on the website answered: one participant (5%) has published his works sometimes, 1 (5%) once a month, 2 (10%) once in three weeks, 2 (10%) once every two weeks, 4 (20%) once a week, 6 (30%) several times a week, and 4 (20%) every day. Only 19 participants or 63.33% had a Facebook profile where they have published photos of their floristic creations. 26 flower shops or 86.67% haven't advertised on wedding portals.



**Histogram 2 Floristic marketing in eastern Slavonija and Baranja – part 2**



Source: authors

8 participants or 26.7% exposed at fairs once, twice or more times in the last two years. 21 participants or 70% didn't expose, and 1 participant or 3.3% didn't answer the question.

To test marketing creativity, participants were given the option to write where they were advertised except the above. Of the 10 participants who declared for additional advertising, 1 is advertised by Facebook paid ads, 1 notices in the wedding halls, 1 messages around the city, and 4 participants were advertised by word of mouth.

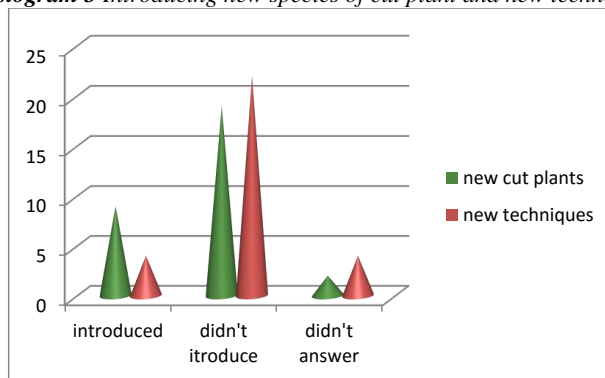
### 3.4 Branding

None of the participants couldn't compete at the international florist competitions and only 1 participant, or 3.3% competed at the competition in Croatia in the last two years. Floristic exhibition had only two participants (6.7%) in the last two years and in fashion shows participated 3 participants (10%).

### 3.5 The use of new materials, techniques and courageous colour combinations

A new species of cut flowers and greenery were introduced by 9 participants (30.00%) in the last two years. 19 participants (63.3%) didn't introduce a new one and 2 participants (6.7%) didn't answer the question (histogram 3).

**Histogram 3 Introducing new species of cut plant and new technique.**



Source: authors

New floristic technique was introduced by 4 participants or 13.3% in the last two years. 22 participants or 73.4% didn't introduce new floristic technique, and 4 participants or 13.3% didn't answer the question (histogram 3). 1 participant said that she introduced the crash technique, and two participants introduced waxing as new techniques. 1 participant said that he introduced several new techniques in daily working.

Chemical Quick Dip - 7 participants or 23.4% use it daily, 1 participant (3.3%) uses it occasionally, 21 participants (70.0%) haven't used it. 1 participant (3.3%) didn't answer the question.

Chemical Finish Touch - 8 participants (26.7%) use it daily, 1 participant (3.3%) uses it sometimes, and 20 participants (66.7%) haven't used it. 1 participant (3.3%) didn't answer the question.

Food for cut flowers are being used by 12 participants (40.0%), 2 participants (6.7%) use it sometimes, 16 participants (53.3%) haven't used it for cut flowers.

8 participants (26.7%) wrote really courageous colour combinations and 15 participants (50%) under the courageous combinations wrote usual combinations of colour, complementary or pastel. 7 participants (23.3%) didn't answer the question.

### **3.6 Professional success and satisfaction?**

A new product developed by them had 5 participants (16.7%), 21 (70.00%) participants didn't design it and 4 participants (13.3%) didn't answer the question.

15 participants (50.00%) were satisfied with professional work and success, 2 participants (6.7%) were mostly satisfied, 4 participants (13.3%) were not satisfied. It can be better considered 5 participants (16.7%), 2 participants (6.7%) were satisfied with 50%, 1 participant (3.3%) didn't know if he is satisfied and 1 participant (3.3%) didn't answer the question.

## **4.0 Discussion**

Although the survey was anonymous, there is a possibility that some participants wanted to show better.

### **4.1 General Information**

Flower shops from Našice, Valpovo and Belišće, as well as two flower shops from Osijek didn't want to approach the survey. Nevertheless, the authors believe that the survey shows the actual state of floristic creativity in eastern Slavonia and Baranja. Also, the survey shows the real situation on the ground within the sexes.

### **4.2 Education and professional knowledge**

Florists-arrangers finish formal education with the third year of secondary school in Croatia. Therefore, the expected fact is that the majority of florists have secondary education. 76.7% are individuals with secondary school for florist-arranger and persons qualified for florist-arrangers at the Open University in Osijek for 124 lessons. Both don't have to pass the exam at the Chamber of Trade. That exam is called master craftsman exam.

It's important to choose non-formal education correct. It's already enough terrible fact that 56.7% florists still don't educate further and stop with education after the end of secondary school or after the exam at the Open University or exam at Chamber of Crafts. When we analyse education of

further 43.3% florists, there is devastating information. The florists mention 30-minute presentation at the wedding fairs as the only non-formal education where they can see only the finished floristic products that expose at trade fairs and where they can hear something from the florist's experience, but they can't see the technique. How difficult the situation in further training is shows the fact that only two florists were on real non-formal education in the last two years; one at Floral Hungaria, spring decorations and the other at two workshops and two presentations about floral wedding at Floral Academy in BC Naklo. Even a small number of participants follow floristic competitions alive and so complete their skills.

Spiral composition is basic floristic technique and discouraging information that spiral is learned by 46.7% of people who will later be florists. This suggests that teachers in schools must be educated additionally. Also it is important to choose flower shops selectively in which pupils will go to practice. It isn't good information that there are 16.7% florists who don't know spiral technique. Also, it is quite questionable knowledge of those 26,7% who are self-educated, and there are 10,0% of those who didn't answer this question. Summing information, there are 53.4% florists with low level of knowledge.

Florists in Croatia can educate through informal workshops of famous floristic masters very rarely. Gregor Lersch and Neil Whittaker were in Croatia in the last 5 years, and they made workshops. Only 6,7% participants were at their workshops. Florists Lukas Jansen had educated in Slovenia twice a year in the last five years. It's quite negative that only one florist participated in these workshops in last two years.

### **4.3 Marketing**

The whole approach to marketing is extremely important for florists in eastern Slavonia and Baranja. Multimedia advertising isn't used. Business card is the most used in marketing, then internet and then flyer. Advertising on public vehicles, direct marketing and PR have not been mentioned by anyone and certainly not mentioned flower shop's interior.

Slightly more than half participants have internet page. 21 flower shops or 70% have a Facebook page, a personal profile on which they publish their floristic creations have only 63.3% participants. Less than 20% participants have used Facebook page for marketing purposes daily. Florists don't use the wedding portals for free or they don't have paid advertisement there. Excuse for internet page can be its price, but making Facebook page is for free. Also, free wedding portals allow placing photos and text. The question of using computer technology for floristic reasons open up the question of computer literacy of the florists and that is an aggravating circumstance for conquering the market. It would be good to know the exact age of the participants as well as the average age of the customers, even though that age can't be a reason for computer illiteracy.

Trade fairs are places where the business is arranged. There is a high frequency of future newlyweds at the wedding trade fair in Osijek each year. Flower shops which expose at the wedding trade fair fulfil their terms. The majority of florists don't recognize that.

### **4.4 Branding**

To succeed, a florist from eastern Slavonia and Baranja must be separated from the group, to be recognizably different and superior. It's worrying that only one participant competed in the last two years and that was at a domestic competition.

Creatively inspiring emotions of customers (surprise, joy, admiration) mean working on branding. Only 1 participant made an exhibition and that was floristic tram. The feelings of those who saw the exhibition were positive. That can be proven with guestbook full of positive messages. Feelings of admiration are particularly present at fashion shows. They were used only by 10.0% of participants.

#### **4.5 The use of new materials, techniques and courageous colour combinations**

Florists can buy cut flowers and greenery from salesmen who come to the flower shops by vans. Also, the plant material can be ordered online from the Netherlands or other countries all over the world. Some florists in eastern Slavonia and Baranja bring the flowers and other material from Budapest. Despite the wide possibilities of introducing new plant species of cut fresh material, a new one was introduced by only 30.0% of participants. New plant species creativity is below the desired at least 50%.

Floristic techniques are changing relatively quickly, as well as other techniques today. New materials require new techniques. New techniques replace the older techniques which are less efficient. So, it isn't good that only 13.3% of participants introduced new techniques in their flower shops.

Chemical agents in floristry like Quick Dip-a, Touch Finish and food for cut flowers, extend the time of postharvest flower's life at least twice, and the time of postharvest flower's life depends on the air temperature and insolation. Prolongation of the lifetime of cut flowers reduces the costs and enters the domain of knowledge and economic creativity. Quick Dip and Finish Touch are relatively new at the market. Florists use food for cut flowers for a long time. In the area of eastern Slavonia and Baranja, there was a presentation of using these chemicals. Only 5 florists covered by this survey were at the presentation even though all the florists have been invited, so it is possible that they have insufficient information. The fact that only 8 or 9 participants used extender of cut flower life indicates absence of creativity in reducing material costs. Very bad result is 46.7% of participants who use the food for cut flowers because that food for cut flowers is present at the market for many years.

The creative use courageous colour's combination engage small percentage of florists (26.67%). It is annoying that 50% of participants considered that the normal colour combinations are courageous colour combination, and that doesn't rise up creativity.

#### **4.6 Professional success and satisfaction**

The highlight in floristic creativity is the creation of a new product. It is easier than before in floristry today because there are more new elements and peoples work is tending to be unique and different.

50% participants are entirely satisfied with professional work and success. Relatively satisfied are 6.7% participants. Full dissatisfaction or some degree of dissatisfaction showed 40% of participants. Considering the marketing, branding, knowledge and use of new materials, techniques and colours, much more negative result is expected.

## 5. Conclusion

High-quality creative non-formal education is insufficient to florists in eastern Slavonia and Baranja. Informal floral education is insufficient. Most of them don't follow the work of top florists, not online or in person during the floristic competition.

The use of new materials, techniques and chemicals, is below the desired at least 50.0%, which indicates insufficiency of creativity.

Being creatively different, creatively superior, creatively play with customer's feelings aren't the choice the most of the florists from the survey.

Professional satisfaction and professional success are overstated. Florists in eastern Slavonia and Baranja are immersed in the lethargy of ignorance and lack of inventiveness. Creativity in the field of own designing informal education, marketing, branding, use of new materials is low and need to be changed urgently. In the view of poor survey's results, it's questionable which methods will be good for rising up florist's creativity.

Only one flower shop built integrated approach through education, marketing and branding. That flower shop and that floristic work are different, floral superior and positively identified at the market. Terms of wedding floristry for that florist are sold out one year in advance. But, only one operates so although there is enough space for all thirty flower shops. The conclusion is that creativity of florists in creating floristic expression can't be related with creativity in marketing and branding. The current state of floristic creativity in eastern Slavonia and Baranja isn't satisfactory.

## REFERENCES

- Pak, C., 2012: Internet Shopping Tendencies of Consumer in Floral Design Products. *Flower Research Journal*, Vol. 20, pp.111-116
- Rhie, J., 2010: A Study on Styles and Features of Flower Shops. *Korea Society of Floral Art & Design*, Vol. 22, pp. 337-359
- Rihn AL, Yue CY, Behe, B & Hall, C, 2011: Generations X and Y Attitudes toward Fresh Flowers as Gifts: Implications for Floral Industry. *Hortscience*, Vol. 46, pp. 736-743
- State, O. & Iorgulescu, M.C., 2014: The impact of management and organizational culture on creativity in the hotel industry. *Amfiteatru Economic*, Vol. 16, pp. 1205-1221
- Sunghoon, K., 2013: A study on effects of application of innovative media creativity activity has on brand positioning. *Journal of Korea Design Knowledge*, Vol. 28, pp. 111-120
- Wilson, RT, Baack, DW & Till, BD, 2015: Creativity, attention and the memory for brands: an outdoor advertising field study. *International Journal of Advertising*, Vol. 34, pp. 232-261
- Wu, JT, Wen, N, Dou, WY & Chen, JS, 2015: Exploring the effectiveness of consumer creativity in online marketing communications. *European Journal of marketing*, Vol. 49, pp. 262-276
- 김지선, 김동찬, 2014: An Analysis on the Display Elements of Foreign Brand Flower Shops. *Journal of the Korean Society of Design Culture*, Vol. 20, pp. 143-152

**Anetta Waśniewska, Ph.D.**

Gdynia Maritime University  
ul. Morska 81-87; 81-225 Gdynia; Poland  
Phone: +48 605 570 568  
E-mail address: a.wasniewska@wpit.am.gdynia.pl

**Katarzyna Skrzyszewska, Ph.D.**

Gdynia Maritime University  
ul. Morska 81-87; 81-225 Gdynia; Poland  
Phone: +48 602 330 546  
E-mail address: k.skrzeszewska@wpit.am.gdynia.pl

**Ivona Vrdoljak Raguž, Ph.D.**

University of Dubrovnik  
Branitelja Dubrovnika 29, 20000 Dubrovnik, Croatia  
Phone: +385 20 445 700  
E-mail address: ivona.vrdoljak@unidu.hr

**A COMPARATIVE ANALYSIS OF CHOSEN DETERMINANTS OF THE  
CROATIAN AND POLISH HUMAN CAPITAL IN THE CONTEXT OF THE  
STRATEGY EUROPE 2020**

**KOMPARATIVNA ANALIZA ODABRANIH DETERMINANTI LJUDSKOG  
KAPITALA U REPUBLICI HRVATSKOJ I POLJSKOJ U KONTEKSTU  
STRATEGIJE EUROPA 2020**

**ABSTRACT**

*The goal of the paper is to analyse and assess determinants of human capital development in Croatia and Poland. The choice of the issue was dictated by the significance which was given to human capital in the strategy for the European development till 2020 – “Europe 2020”. The choice of these two countries was a consequence of the convergence of the indexes characterising the an average level of quality of life (e.g. GDP per capita, the median of earnings, average earnings) with the existing huge disparities in human capital resources, both from the point of view of quantity and quality. The EU became a benchmark enabling the objective assessment of the issue connected with human capital in each of the aforementioned countries. In the paper the following research thesis was considered: the quality of human life depends on the level of education. Higher education (level 5 – 8 of the European Qualification Framework) guarantees the competitive advantage on the labour market and it ensures on attractive and stable employment. The research methods used in this paper were: the critical analysis of the data gained during the literature studies and the Hellwig method. These methods were complemented by the descriptive statistics instruments and the research report from the survey conducted via the Internet in the form of a questionnaire. As the result of the analysis it was indicated that the most important determinant of human capital development (common for Croatia, Poland and also the EU) was higher education. However, the thesis of the research stated before it was conducted was falsified. The analysis of the statistical data concerning people with higher education at the labour market revealed that, especially in Croatia, the percentage of the educated unemployed increases. The research results from the survey conducted at Gdynia Maritime University and the University of Split indicate that a possible source of such a situation is divergence between the educational offer and the expectations of the*

stakeholders - both employers and students. A change of this situation is necessary to make the development of the European Union smart, sustainable and characterised by social cohesion.

**Key words:** Europe 2020, the Hellwig method, higher education, human capital, labour market

## SAŽETAK

Cilj ovog rada je analiza i procjena odrednica razvoja ljudskog kapitala u Hrvatskoj i Poljskoj. Odabrana tema je vezana uz važnost ljudskog kapitala u Strategiji razvoja Europe do 2020. - "Europa 2020". Izbor tih dviju zemalja posljedica je indeksa koji obilježava prosječna razina životne konvergencije (npr. BDP-a po stanovniku, medijana zarade, prosječne zarade) s istovremenim velikim razlikama u resursima ljudskog kapitala, kako kvantitativno tako i kvalitativno. EU je postala mjerilo objektivne procjene pitanja vezanih uz ljudski kapital u svakoj od navedenih zemalja. U radu je analizirana slijedeća istraživačka teza: kvaliteta ljudskog života ovisi o razini obrazovanja. Visoko obrazovanje (razina 5-8 Europskog kvalifikacijskog okvira) jamči stjecanje konkurentne prednosti na tržištu rada i prevodi se na atraktivnu i stabilnu zaposlenost. U ovom radu je korišteno nekoliko istraživačkih metoda: kritička analiza sekundarnih podataka i literature i Hellwig metoda. Ove metode su dopunjene deskriptivnim statističkim instrumentima i izvještaju o rezultatima istraživanja na temelju anketnog istraživanja provedenog putem interneta. U analizi je također bilo navedeno da je najvažnija odrednica razvoja ljudskog kapitala (zajednička za Hrvatsku, Poljsku i također EU) visoko obrazovanje. Međutim teza istraživanja je bila pogrešna. Analizom statističkih podataka o visokoobrazovanim osobama na tržištu rada pokazala je kako se postotak nezaposlenih povećava, posebice u Hrvatskoj. Rezultati istraživanja proizlaze iz anketnog istraživanja provedenog na Gdynia Maritime University i Sveučilišta u Splitu koja ukazuju na disonancu između obrazovne ponude i očekivanja dionika - zaposlenika i studenata. Promjena ovog stanja potrebna je kako bi razvoj Europske unije bio pametan, održiv uz socijalnu uključenost.

**Ključne riječi:** Europa 2020, Hellwig metoda, visoko obrazovanje, ljudski kapital, tržište rada

### 1. Introduction

Human capital is a concept and an area of research that raises a lot of controversies among economists. The value of a man from the perspective of economics was recognized in response to the development of civilization and technology. Initially, the term human capital was seen as labour, capital embodied or alive capital.

XXI century brought dramatic changes that resulted in intense competition not only from domestic but also between international companies. In turbulent, dynamic and uncertain environment it is necessary to continually create new ideas and new knowledge. In such operating conditions it is not surprising that the knowledge management quickly emerged as an integral part of strategies that organizations worldwide use to assimilate, managed and disposed of knowledge in the organization as the basis for achieving sustainable competitive advantage (Vrdoljak Raguž, Jelenc, Podrug, 2013, 173).

Currently, human capital is considered from two perspectives: narrow and wide. In narrow terms, the human capital analysis takes into consideration: knowledge, the educational level and social skills. Whereas, the wide scope includes knowledge, skills, the level of health, vital energy, which are characteristic for one man or the general public.

Human capital can also be seen in economic terms. In the microeconomic approach it means knowledge, skills, health and experience accumulated in a man and it refers primarily to the issues of family and its impact on the quality and development. In this approach, the analysis focuses further on demographic changes in the society. They concern mainly the attitude to a child, which can be considered, *inter alia*, the category of productive goods, a source of income or satisfaction

for parents. The macroeconomic approach refers to human capital accumulated in the population living in some area. Then, human capital is considered, among others, through the prism of investments related to the expenditure on health care, public safety, staff training, formal education, studies for adults, population migrations. The macroeconomic approach to human capital is dynamic and is characterised by an increase in the significance of knowledge at different levels of socio-economic development. For this reason, human capital is a key resource, which according to the assumptions of the Europe 2020 strategy plays and will play a decisive role in the development of the European Union.

## 2. “Europe 2020” Strategy

### 2.1. The Strategy’s assumptions and objectives

The crisis that started in the US in 2007 and the phenomena that spurred the changes in the environment of the European economy (globalization, aging population, a climate change) highlighted weaknesses of that economy. The goal that was set by the Lisbon Strategy was not reached. The idea of another strategy: 2020 has been modified. Instead of striving to remain a world leader, the most competitive economy in the world, the European Commission has chosen sustainable development and social cohesion as determinants "(...) a social market economy for the twenty-first century" (Europe 2020, 2010, 5). It was assumed that the development of the European Union will be based on three pillars: smart growth, sustainable growth and inclusive growth. In order to assess the degree of implementation of the strategy, five quantifiable goals were adopted (Tab. 1).

*Table 1 Goals of the Europe 2020 Strategy*

	Europe 2020 Targets	Croatian Targets	Polish Targets
<b>Priority I</b>	<b>Smart Growth</b>		
The employment rate of population aged 20-64 [%]	75.0	62.9	71.0
R&D in GDP [%]	3.0	1.4	1.7
<b>Priority II</b>	<b>Sustainable Growth</b>		
Reduce greenhouse gas emissions compared to 1990 [%]	20.0 (or by 30.0) (base year: 1990)	20.0 (base year: 2005)	14.0 (base year: 2005)
Increase the share of renewable energy sources in final energy consumption [%]	20.0	20.0	15.48
Increase in energy efficiency [%]	20.0	20.0	20.0
<b>Priority III</b>	<b>Inclusive Growth</b>		
Reduce the number of early school leavers [%]	10.0	4.0	4.5
Increase the share of population aged 30-34 having completed tertiary education [%]	40.0	35.0	45.0
Reduce the number of people out of poverty [000]	20 000	150 (compared to 2012)	1 500

*Source: (Europe 2020, 2010)*

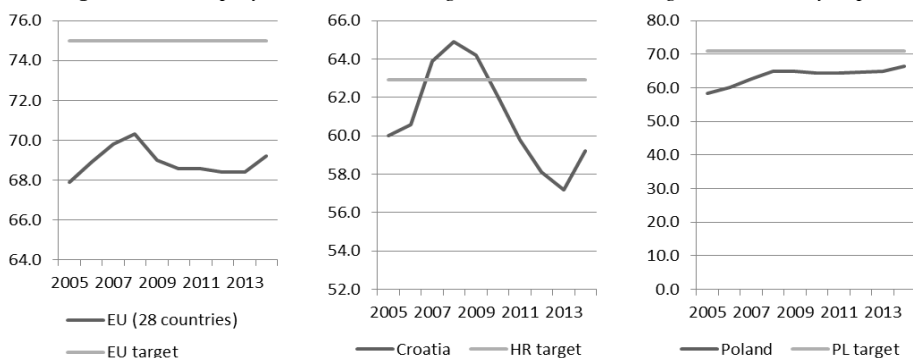
The EU objectives are not the same for each of the member countries. The differences in the desired level of each indicator are mainly due to differences in socio-economic development of individual States (Skrzeszewska, 2014, 12970-12971). It is also important that between 2000 and 2010, the number of members of the EU increased by 12 states (and the process of Croatia's accession still lasts), and that most of the new EU countries were the post-socialist countries. The restructuring of socialist economies, although started in the late 90s, has not yet caused the countries in Central - Eastern Europe to attain the average level of development of the countries of Western Europe. Applying to any economy the same indicators would be irrational.



## 2.2. The achievement of the defined objectives connected with human capital in Croatia and Poland

With respect to the factors influencing the potential of human capital targets set for the whole European Union and for Croatia and Poland differ greatly. The employment rate in the EU at 75% is about 4 p.p. higher than the Polish target, but in Croatia the target is lower by as much as 12.1 p.p. Figure 1. shows the change in the employment rate in the surveyed period with the expected values for the whole EU, Croatia and Poland. Only in the case of the Polish economy the actual employment rate is approaching the expected one. In the European Union, the employment rate changed in an undesirable direction under the influence of the crisis of 2007. It was the same in Croatia. The Croatian employment rate is strongly correlated with the EU (correlation is 0.77,  $p < .05000$ ), so changes were similar both because of the direction and because of the size. The difference can be seen in relation to the year 2013. Croatia became 28<sup>th</sup> member of the EU, and this opened up a possibility of working abroad.

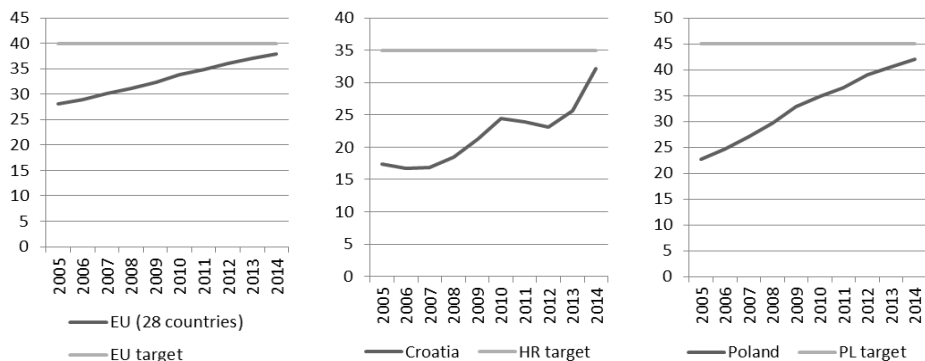
**Figure 1** The employment rate – the target value and the changes in the surveyed period



Source: Eurostat

The reduction of the early school leavers' rate has already been achieved by Croatia, which has the most restrictive index value: 4%. With regard to the Polish state the difference between the actual and desired rate in 2014 amounted to 0.9 p.p. In the EU, the indicator is more than twice higher than in the studied countries and despite the systematic decline in the number of early leavers, their share is still higher than the desired level by more than 1 p.p.

**Figure 2** Share of population aged 30-34 having completed tertiary education – the target value and the changes in the surveyed period



Source: Eurostat

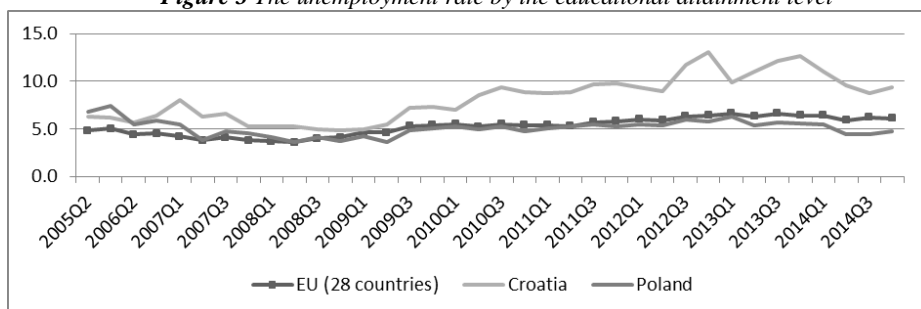
Source: Eurostat

Source: Eurostat

Another important indicator for the quality of human capital is the rate of people with higher education in the population of people aged 30 - 34. In Poland, the target value is about 5 p.p. higher and Croatia 5 p.p. lower than the target set for the EU (Fig. 2.).

In both the countries, the percentage of people with higher education is growing faster than in the European Union. However, it could not be unambiguously treated as a good trend without an in-depth qualitative analysis. Scepticism is due to several reasons. Firstly, the demographic situation in the countries surveyed is unfavourable. The negative natural increase and less numerous year-ending high school leavers make up an increasingly smaller stream of future students. Secondly, economic and political transformation, and with it the liberalization of the law and the possibility of opening private universities which resulted in an increase in the number of potential students. Another factor which favourably affects the rate of people with higher education - problems of young people in the labour market.

**Figure 3** The unemployment rate by the educational attainment level



Source: Eurostat

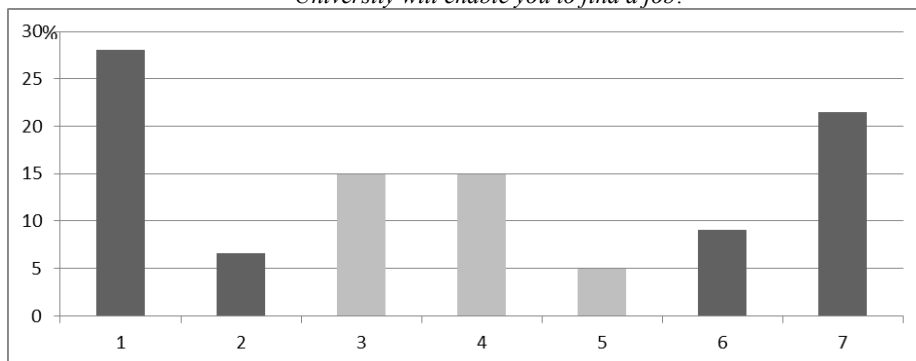
The unemployment rate of people under 25 in Poland is 25% - in Croatia it is twice as high (Eurostat, 2016). Therefore, postponing the moment of entering the labour market is rational.

The last factor, which certainly served popularization of higher education - is the introduction of the European Qualifications Framework and forming a part of the system, not the Bologna higher education system (Bachelor, Masters and PhDs).

One of the reasons for this seems to be a mismatch of specializations offered by higher education institutions to meet the expectations of the labour market. Given the autonomy to universities, it is now difficult to impose directions of education by the state or the local government. Changes in the directions and methods of education, greater flexibility in creating the educational offer and faster reactions to the changes in the labour market could be forced by the recipients of the services - prospective employers as well as students.

At present, some students are not interested in choosing the studies that match the expectations of the labour market. Such proposals were formulated on the basis of the results of the research conducted among students in the fields of management, at two universities: Polish - Gdynia Maritime University (the studies of academic profile) and the Croatian University of Split (the studies of professional profile). The figure 4 shows graphical structure of the answers given by students to the question "how have you checked that graduation at your University will enable you to find a job?" (the study was conducted in December 2015 and January 2016). Only 34.7% people said they had looked prior to the studies for the information about career opportunities and potential a career path. Among these, 14.8% had consulted family members who know the realities of the labour market; 14.8% had checked if their future universities and courses of studies are desired by employers; 4.9% had read the reports on the situation of graduates in the labour market.

**Figure 4** Students' responses to the question "How have you checked that graduation at your University will enable you to find a job?"



1. Opinion of the family, friends who graduated from this University. 2. Information obtained during the presentation of the University. 3. I consulted a person familiar with the realities of the labour market. 4. I checked rankings of universities/ courses most in demand by employers. 5. I read reports devoted to university graduates in the labour market. 6. I was not interested in it. 7. I did not pay attention to it, the labour market can be quite different when I finish the studies.

*Source: the authors' own survey*

Over 65% students chose the studies without checking the labour market expectations with regard to knowledge, skills and social competences of graduates.

### 3. The role of human capital in the contemporary society development

The Europe 2020 Strategy highlights the importance of sustainable development. Two priorities set out in the Strategy for smart growth and inclusive growth emphasise the importance of building up human capital to improve competitiveness of the EU economies in international markets. Currently, there is no clear definition of the concept of human capital. Most often it refers to knowledge skills, health and social and economic activity of individuals or groups of people living in a specific area. In the absence of an explicit definition in the literature of determinants of the components that constitute this concept we can find a number of variables that affect the issue. The first attempt to analyse human economic terms was made in the seventeenth century. However, the very concept of human capital was first used by T.W. Schultz (Schultz, 1960, 1-20). Currently, human capital and the related theory is most often associated with the name of G. S. Becker (Teixeira, 2014, 2-18).

Research on the importance of human capital and its impact on the economic situation were and is carried out by many scientists. They agreed that economic growth is influenced by the level of education of citizens (knowledge), as well as the development of techniques and technology. The different levels resulting from education and skills of people explain differences in the level of competitiveness and economic growth of the countries (Wańniewska, 2013, 160).

The creation of human capital is associated with the time that is required to adjust knowledge, qualifications and skills to the changing needs of the labour market. This is crucial for the economy for the improvement of its competitiveness on the international arena. The problem, however, is to measure human capital, because skills, knowledge and competencies are observable and can be comparable, but there are difficult to measure on the level of economies. Such attempts are made by the European Commission and Eurostat. Currently, one of the most credible studies with regard to the analysis of human capital is the EU LFS. This study also concerns issues related to education, the labour market, the economic situation of respondents. The results obtained in this way are dealt with on the national level (European Competitiveness Report 2014, 2015, 32-35).

#### 4. The analysis of human capital using the Hellwig Method

Human capital as the outcome of many variables can be considered on the national level. The analysis concerned the data from Eurostat for the period from 2005 to 2014 in order to obtain comparability of the results. On the basis of the information contained in the literature and the available data, potential explanatory variables (endogenous) were selected, which have an impact on populations living in Croatia and Poland (variables explained, exogenous). It was found out that this set is very numerous and, in turn, this contributed to its limitation.

It should be emphasized that the analysis included only the data available at Eurostat, where the information for these years was published at the same time for Croatia and Polish.

*Table 2 The set of potential explanatory variables*

Variable	Interpretation	Variable	Interpretation
x <sub>1</sub>	population on 1 January - males	x <sub>19</sub>	unemployment rate of the total population, men, age group 25-74
x <sub>2</sub>	population on 1 January - females	x <sub>20</sub>	unemployment rate of the total population, women, age group 25-74
x <sub>3</sub>	proportion of population aged 0-19	x <sub>21</sub>	employment rate of the total population, men and women, age group 15-64
x <sub>4</sub>	proportion of population aged 20-64	x <sub>22</sub>	employment rate of the total population, men, age group 15-64
x <sub>5</sub>	proportion of population aged 65+	x <sub>23</sub>	employment rate of the total population, women, age group 15-64
x <sub>6</sub>	median age of population	x <sub>24</sub>	employment rate of the total population, men and women, age group 65-74
x <sub>7</sub>	women per 100 men	x <sub>25</sub>	employment rate of the total population, men, age group 65-74
x <sub>8</sub>	life expectancy at birth	x <sub>26</sub>	employment rate of the total population, women, age group 65-74
x <sub>9</sub>	age dependency ratio, 1st variant (population aged 0-14 and 65 and more to population aged 15-64)	x <sub>27</sub>	overall employment growth
x <sub>10</sub>	old dependency ratio 1st variant (population 65 and over to population 15 to 64 years)	x <sub>28</sub>	duration of working life
x <sub>11</sub>	young-age dependency ratio 1st variant (population aged 0-14 to population 15-64 years)	x <sub>29</sub>	duration of working life, men
x <sub>12</sub>	total unemployment rate	x <sub>30</sub>	duration of working life, women
x <sub>13</sub>	unemployment rate, men	x <sub>31</sub>	less than primary, primary and lower secondary education (levels 0-2)
x <sub>14</sub>	unemployment rate, women	x <sub>32</sub>	upper secondary and post-secondary non-tertiary education (levels 3 and 4)
x <sub>15</sub>	unemployment rate of total population below 25 years	x <sub>33</sub>	tertiary education (levels 5-8)
x <sub>16</sub>	unemployment rate of men below 25 years	x <sub>34</sub>	Gross Domestic Product at market prices
x <sub>17</sub>	unemployment rate of women below 25 years	x <sub>35</sub>	nominal Gross Domestic Product <i>per capita</i>
x <sub>18</sub>	unemployment rate of the total population, men and women, age group 25-74	x <sub>36</sub>	real Gross Domestic Product <i>per capita</i>

*Source: the authors' own elaboration based on Eurostat*

In the first phase we selected variables that were substantiated (Tab. 2). This was followed by the elimination of variables, whose diversity was deemed insufficient. As a measure of diversity the coefficient of variation was used. Its critical value was assumed at 10%. For a further analysis five variables (x<sub>12</sub>, x<sub>18</sub>, x<sub>27</sub>, x<sub>33</sub>, x<sub>35</sub>) were left, the remaining 31 variables were considered quasi-variables.

Subsequently, the vector of coefficients of the linear correlation between exogenous and endogenous variables was calculated separately for both the countries and the matrix of correlation coefficients among endogenous variables was created (Arczel, 1989, 442-447).

In the next step the Hellwig method was used. It is based on the so-called integral capacity media. As information media all potential explanatory variables were adopted. Subsequently, the number of all possible combinations of potential variables was calculated and for each combination the calculated individual information capacity was determined (Kowalik, 2014, 31-40):

$$h_{lj} = \frac{r_j^2}{\sum_{i \in I_l} |r_{ij}|}, \quad l = 1, 2, \dots, L, \quad j \in I_l$$

$r_j$  - correlation between Y and  $x_j$ ;

$r_{ij}$  - correlation between  $x_i$  and  $x_j$ .

Then calculates the information capacity of all variables occurring for L-th combination was determined with the use of the formula:

$$H_l = \sum_{i \in I_l} h_{ij}, \quad l = 1, 2, \dots, L$$

$H_l$  – integrated capacity of information medium.

Of all the possible combinations, the one was chosen, for which the integral capacity is the biggest. As a result of the analysis 62 possible combinations of potential variables (for each country after 31 combinations) were obtained. Then, calculations were performed and the combination, which contains the largest capacity value of information was found.

**Table 3** The values of the integral capacity of information medium for Croatia, Poland and EU

Variable	Endogenous variables	The integral capacity		
		Croatia	Poland	European Union
H1	X <sub>12</sub>	0.8239	0.2776	0.5196
H2	X <sub>18</sub>	0.8332	0.2655	0.5320
H3	X <sub>27</sub>	0.1211	0.3885	0.2839
H4	X <sub>33</sub>	0.9021	0.7788	0.9440
H5	X <sub>35</sub>	0.1352	0.5344	0.7585
H6	X <sub>12</sub> , X <sub>18</sub>	0.8293	0.2717	0.5263
H7	X <sub>12</sub> , X <sub>27</sub>	0.6559	0.5903	0.5176
H8	X <sub>12</sub> , X <sub>33</sub>	0.9526	0.7025	0.8114
H9	X <sub>12</sub> , X <sub>35</sub>	0.8992	0.4648	0.9236
H10	X <sub>18</sub> , X <sub>27</sub>	0.6645	0.5787	0.5409
H11	X <sub>18</sub> , X <sub>33</sub>	0.9567	0.7024	0.8102
H12	X <sub>18</sub> , X <sub>35</sub>	0.8884	0.4606	0.9226
H13	X <sub>27</sub> , X <sub>33</sub>	0.7094	0.7488	0.8631
H14	X <sub>27</sub> , X <sub>35</sub>	0.1762	0.6333	0.7310
H15	X <sub>33</sub> , X <sub>35</sub>	0.1499	0.6861	0.8035
H16	X <sub>12</sub> , X <sub>18</sub> , X <sub>27</sub>	0.7447	0.5638	0.5538
H17	X <sub>12</sub> , X <sub>18</sub> , X <sub>33</sub>	0.9330	0.6089	0.7337
H18	X <sub>12</sub> , X <sub>18</sub> , X <sub>35</sub>	0.9149	0.4133	0.8656
H19	X <sub>12</sub> , X <sub>27</sub> , X <sub>33</sub>	0.8302	0.7779	0.7883
H20	X <sub>12</sub> , X <sub>27</sub> , X <sub>35</sub>	0.6994	0.6354	0.8310
H21	X <sub>12</sub> , X <sub>33</sub> , X <sub>35</sub>	0.9116	0.6478	0.9456
H22	X <sub>18</sub> , X <sub>27</sub> , X <sub>33</sub>	0.8346	0.7749	0.7959
H23	X <sub>18</sub> , X <sub>27</sub> , X <sub>35</sub>	0.6975	0.6306	0.8414
H24	X <sub>18</sub> , X <sub>33</sub> , X <sub>35</sub>	0.9091	0.6470	0.9429

Variable	Endogenous variables	The integral capacity		
		Croatia	Poland	European Union
H25	X <sub>27</sub> ,X <sub>33</sub> ,X <sub>35</sub>	0.5933	0.7346	0.9170
H26	X <sub>12</sub> ,X <sub>18</sub> ,X <sub>27</sub> ,X <sub>33</sub>	0.8562	0.7262	0.7388
H27	X <sub>12</sub> ,X <sub>18</sub> ,X <sub>27</sub> ,X <sub>35</sub>	0.7948	0.5973	0.8178
H28	X <sub>12</sub> ,X <sub>18</sub> ,X <sub>33</sub> ,X <sub>35</sub>	0.9415	0.5942	0.8966
H29	X <sub>12</sub> ,X <sub>27</sub> ,X <sub>33</sub> ,X <sub>35</sub>	0.7991	0.7318	0.9092
H30	X <sub>18</sub> ,X <sub>27</sub> ,X <sub>33</sub> ,X <sub>35</sub>	0.7991	0.7300	0.9132
H31	X <sub>12</sub> ,X <sub>18</sub> ,X <sub>27</sub> ,X <sub>33</sub> ,X <sub>35</sub>	0.8569	0.6964	0.8759

Source: the authors' own calculations

## 5. Conclusions

The results of the empirical research have shown that in the case of Croatia, the most important in building up human capital, with the use of the Hellwig method were the combinations of “unemployment rate of the total population, men and women, age group 25-74” (x<sub>18</sub>) and “tertiary education (levels 5-8)” (x<sub>33</sub>). By contrast in Poland the biggest impact on human capital among the analysed determinants had only one variable human capital “tertiary education (levels 5-8)” (x<sub>33</sub>). In comparison calculations were performed also for the same variables, but for the 28 countries belonging to the EU. In the case of the EU's human capital by three variables were distinguished as the most important: “total unemployment rate” (x<sub>12</sub>), “tertiary education (levels 5-8)” (x<sub>33</sub>), “nominal GDP *per capita*” (x<sub>35</sub>).

It should be emphasised that in the case of each of the studies conducted the biggest impact on the level of human capital is the proportion of people with higher education aged 15-64 (level 5-8), who are of working age and have the greatest influence on the situation on the labour market.

If we analyse empirical research it can be concluded that analysis of secondary statistical data is very good but that the possible limitation of this study arises from the fact that in the conducted survey only two Universities have been a part of this study. In the future empirical research should be conducted on a bigger and wider sample and that can be express as one of the directions for the future research.

## REFERENCES

- Arczel, A.D. (1989): *Complete Business Statistics*, IRWIN, Boston, pp. 442-447.
- COM (2010) 2020 final: *Europa 2020. A strategy for smart, sustainable and inclusive growth*, Brussels.
- Eurostat (2016): data on-line, <http://ec.europa.eu/eurostat> (accessed February/ March 2016).
- Kowalik, K. (2014): *On an implementation of the method of capacity of information bearers (the Hellwig method) in spreadsheets*, in: Banek, T. and Kozłowski, E., ed.: *Probability in Action*, Politechnika Lubelska, Lublin 2014, pp. 31-40.
- Skreszewska, K. (2014): *Regionalny rynek pracy a oferta kształcenia pomorskich uczelni publicznych w kontekście strategii Europa 2020*, in: *Logistyka*, nr 6, pp. 12970-12985
- Schultz, T.W. (1961): *Investment in human capital*, *American Economic Review*, Vol. 51 (1), pp. 1-17.
- SWD(2014) 277 final: *European Competitiveness Report 2014. Helping Firms Grow*, Brussel, pp. 32-35.
- Teixeira, P.N. (2014): *Gary Becker's early work on human capital – collaborations and distinctiveness*, in: *IZA Journal of Labor Economics* (2014): Springer Open Journal, pp. 1-20, <http://izajole.springeropen.com/articles/10.1186/s40172-014-0012> (accessed 2016.03.04).

Vrdoljak Raguž, I., Jelenc, L., Podrug, N. (2013): *Izvori konkurentske prednosti u XXI. stoljeću*, Sveučilište u Dubrovniku, Dubrovnik, pp.173.

Waśniewska, A. (2013): *The potential of the population in the Baltic Sea Region in the years 2001-2011*, in: *Regional Economy in Theory and Practice*, Sobczak, E. and Raszkowski, A., ed., Research Papers of Wrocław University of Economics, Vol. 286, pp. 157-168.







**Medusektorska  
suradnja  
& Partnerstva**

**Intersectoral  
cooperation  
& Partnerships**

**Gerdesics, Viktória, assistant lecturer**

University of Pécs Faculty of Business and Economics  
H-7622 Pécs, Rákóczi str. 80.  
Phone: +36 72/501-599/23374 Fax: +36 72/501-553  
E-mail address:gerdesicsv@tk.pte.hu

**Putzer, Petra, PhD, assistant lecturer**

University of Pécs Faculty of Business and Economics  
H-7622 Pécs, Rákóczi str. 80.  
Phone: +36 72/501-599/23129 Fax: +36 72/501-553  
E-mail address:putzerp@tk.pte.hu

**Orosdy, Béla, CSc, associate professor**

University of Pécs Faculty of Business and Economics  
H-7622 Pécs, Rákóczi str. 80.  
Phone: +36 72/501-599/23129 Fax: +36 72/501-553  
E-mail address:orosdy@tk.pte.hu

**THE CROATIAN COUNTRY IMAGE IN HUNGARY – HOW TOURISM-RELATED SMEs SHOULD EXPLOIT POTENTIALS LYING IN THE NEIGHBOURHOOD**

**IMIDŽ DRŽAVE HRVATSKE U MAĐARSKOJ – KAKO TURISTIČKA MSP-A MOGU ISKORISTITI POTENCIJALE U SUSJEDSTVU**

**ABSTRACT**

*Investigating country image in recent rival world is a must for all nations as adequate development of our country brand and knowing the country image provides a tool that we have to take advantage of in the age of globalization. This is essential in case of a country like Croatia reborn in the end of the 20th century and facing new challenges hardly twenty years later as the newest member of the European Union. The European integration processes provide numerous opportunities as with obliteration of frontiers economic processes get new dynamics and areas can begin their flourish recovery. However, base of strategic thinking is the accurate knowledge and understanding of the present – aim of our study is to support this.*

*Croatia became EU-member in 2013 by which has undoubtedly found itself in the centre of attention. The research shown in present study investigates country's image by showing up in new market circumstances, from a narrower aspect the image in minds of the neighbouring Hungarians. A few months before the accession the country brand was studied with questionnaire survey, collecting the thoughts of 681 respondents by snowball sampling. Knowing elements of the Croatian country image and features of the perceived brand identity – that is according to the research findings far not a war-destroyed one but lying on tourism basis – can reveal strengths and weaknesses and show further possibilities at the same time.*

*Using the results, opportunities of the Croatian tourism-related companies are revealed, paying outstanding attention on the area of Eastern Croatia. Based on the findings the neighbouring Southern Hungarian territory seems to be a promising market, however captivation needs further presentation and development. For supporting this propositions are drafted regarding the possible strategy that could moderate the absence of seaside and the ways and development directions of approaching different segments of the Hungarian audience.*

**Key words:** Croatia, country brand, country image, tourism, SMEs

## SAŽETAK

Razmatranje imidža zemlje u današnjem suparničkom svijetu je potrebno za sve nacije kako adekvatan razvoj branda zemlje i poznavanje imidža daje sredstvo koje je potrebno iskoristiti u doba globalizacije. To je bitno u slučaju zemlje kao što je Hrvatska koja je doživjela ponovno rođenje krajem 20-og stoljeća, i suočava se sa novim izazovima samo dvadeset godina kasnije kao najnovija članica Europske Unije. Procesi europske integracije pružaju brojne mogućnosti kao što s nestajanjem granica gospodarski procesi dobiju novu dinamiku i prostori mogu početi svoj procvat i oporavak. Međutim, baza strateškog razmišljanja mora obuhvatiti točna znanja i razumijevanja sadašnjosti – cilj našega rada pruža pomoć u tome.

Hrvatska je postala članica EU 2013 godine i tako se nesumnjivo našla u središtu pozornosti. Istraživanje u našem radu proučava imidž zemlje prikazanu u novim tržišnim okolnostima, u užem smislu imidž koji prema Hrvatskoj imaju susjedni Mađari. Nekoliko mjeseci prije pridruživanja bio je studiran brand Hrvatske uz pomoć upitnika, prikupljanjem mišljenja 681 ispitanika, uzimanjem uzorka "snowball" metodom. Prepoznavanjem elemenata imidža Hrvatske i značajke percepcije brand identita – koji u skladu s nalazima istraživanja nimalo se ne veže sa ratnim uništenjem, već se zasniva u turizmu – se mogu otkriti prednosti i slabosti te istovremeno prikazati dodatne mogućnosti.

Koristeći rezultate, otkrivaju se mogućnosti hrvatskih tvrtki vezanih uz turizam, s fokusom na područje istočne Hrvatske. Na temelju nalaza, susjedni teritorij južne Mađarske se čini obećavajućem tržištem, međutim da bi se to tržište osvojilo, potrebne su dodatna prezentacija i razvoj. Za davanje podrške daju se prijedlozi za moguću strategiju koje mogu ublažiti udaljenost od Jadranskog mora i za načine i pravce približavanja različitim segmentima Mađarske publike.

**Ključne riječi:** Hrvatska, brand države, imidž države, turizam, MSP

### 1. Introduction

Country image is one of the most significant marketing concepts of recent times. According to Kotler et al (1993) country image is sum of views, beliefs and opinions about a country. Country image can be found in professional literature dating back to the 1960s, at that time primarily from the aspects of the so called country-of-origin effect. However, the latest papers investigate country image as a brand value, as a result of which the process of country branding shows up (Jenes, 2012).

Croatia became the newest member of the European Union a few years ago and with this it has faced several opportunities and challenges. Present study aims to provide a base for the strategic thinking of branding Eastern Croatia for exploiting the opportunities lying in the neighbourhood from the aspect of tourism-related companies.

### 2. Theoretical background of country brand and country image

Nevertheless the fact that relating literature goes back to the 9<sup>th</sup> century, brands began to be essential in the end of the 19<sup>th</sup> century, according to Papp-Váry (2009) since on one hand mass production came with the industrial revolution, and on the other hand because that was the time when the population when reading had spread broadly and brand name received its significance. Definition of the American Marketing Association (Kotler-Keller, 2012, 282.) "brand is a name, term, design, symbol, or any other feature that identifies one seller's good or service as distinct from those of other sellers". As Cheverton (2005) highlights, brand realizes its functioning in the heads of the consumers thus brand is a feeling of a person and the brand image is built up by the individual. Brand and image are related concepts but only the process is conscious, the branding.

Branding means differentiation of our product or service from others, and by this it is not anything other than an effort to gain unique competitive advantage, namely marketing strategy, competitive strategy. Besides, every country has an image that is not stable but it is continuously changing and changeable, it can form spontaneously or in a coordinated way (Papadopoulos – Heslop, 2001; Sándor, 2003).

There are some spectacular examples for countries occurring as brand also before the exact, defined mentioning of country brand and country branding. Conscious building of nation brand in France was already begun in the early 18<sup>th</sup> century, but England, the nazi Germany, fascist Italy or communist Russia (the Soviet Union) are also good examples for country branding. After the Second World War great colonial empires unravelled and after them new nations began their paths, and the same process returned after the collapse of the Soviet Union and Yugoslavia in the 1990's. There are nearly 200 countries competing in our globalized world, and the role of country image is highly prominent in this battle. According to Anholt (2005) – being the first one to define country branding in 1996 – a good country brand means “soft power” in this competition, he specifically calls it as competitive identity. Country branding is the field of marketing where subject of branding is a country, while the aim is the development and shaping of a positive country image and reputation for it. Jenes (2012, 38.) says that “country branding is defining a geographical unit, a country in theory and all the approaches, together with the implication of relevant and targeted marketing implications in practice... country brand can be sum of all the symbols that serve for differentiating a country and that create value through associations, reputation, loyalty and image.” According to Papp-Váry (2009) aims of country branding are primarily economic; enhancing tourism, strengthening investment and developing export. World today is a great market where every country, city and region has to compete with others for consumers, tourists, investors, students, entrepreneurs and the attention and respect of international media, governments and citizens of other countries.

Croatia became 28<sup>th</sup> member of the European Union in 2013. Seceded from Yugoslavia and became independent in 1991 and began its path towards the European Union that also had to compete with a war in the beginning of this times. With the succession new doors and at the same time new challenges has opened. Thanks to its advantageous geographical position it acted as commercial centre during its history, in the 6<sup>th</sup> century BC Illyrians traded with the ancient Greeks on its territory, several buildings bear witness to the presence of the Romans, and by the time of the arrival and territorial defence of Slavs Dubrovnik played an important role (Hitrec, 2002). Country can be divided into two parts from geographical aspect related to the sea (continental and maritime), while regarding its relief three parts can be differentiated (maritime, highland and Pannonian territories. People live from other resources on the seaside, in the mountains and in Pannonian basin thus the picture of the settlements differs as well – the characteristic buildings, gastronomy, style of living and the economic activity. The population also alters, migration is concentrated primarily in the seaside territories and the capital city (Reményi, 2006) and so do the tourists (DZS, 2014) despite that the Pannonian parts of the counties are different but not possess less significant touristic values at all (Gerdesics, 2013).

Based on the detailed above, for improvement and conscious shaping of our image by strategic aims (and our economic indicators at the same time), as the first step the knowledge about the current outside image is needed. Literature about the country image states that the nearer we are to a country or the more experience we have, the more we know about it, thus the broad our country image will be – that is why the literature treat territories near the border as a separate segment when investigating outside image (Anholt, 2007; Papp-Váry, 2007). Aim of the present study is presenting the Croatian country image in the neighbouring Hungary at a time when it is especially important for the country, by the time of Croatia's EU-accession.

### **3. Results of an empirical research: Croatian country image in Hungary**

Investigation shown in the study was carried out in 2013 in Hungary, few months before the EU-accession of Croatia, with the aim of providing a small slice of the welcoming of the country in the new environment. Purpose of the research was to study the country image and despite the fact that the research was not representative, it could nevertheless show findings worth for considering because of the big sample.

#### **3.1. Methodology**

The primary research was done with the tool of a questionnaire survey, collecting the answers by snowball sampling - in nearly two weeks 681 valid questionnaires arrived. During the design the main aim was that the respondents in the beginning cannot recognize the focus of the investigation since principally their overall associations were expected. According to this, in the first few questions Croatia did not appear independently and guiding the respondents' thoughts, like by showing the word "tourism" in the beginning, was tried to be avoided. The questionnaire strived to investigate what image Hungarians associate Croatia with not long before the EU-accession.

The sample consists of Hungarian citizens, 59% of which are female and 41% men, with the average age of 29, 70% possessing BSc or MSc diploma, 56% working and 43% living in Baranya County, while 23,5% living in Budapest or the county of the capital of Hungary. They were also asked how many times they have visited Croatia so far (53.5% at least three times and 16,2 have never) that aimed to examine the rate of building their opinion on own experience. There was a filter question about their Croatian nationality where 12,6% of the respondents claimed having Croatian roots, thus answers of 86 Croatians in Hungary are included in the results.

#### **3.2. Croatian country brand**

Favourably a country brand is built up just like any other product brand. For reaching recognisability usage of different image elements can support (e.g. logotype, slogan) thus it is useful to study what colours, words, symbols people connect to a country and knowing whether male of female character is joined to it provides an effective basis for planning marketing tools.

It is interesting to investigate what is the first association that comes into one's mind when hearing the name of a country. Several things can be connected to our Southern neighbour; the red-and-white chessboard, passionate people, Croatian gastronomy, sea with crystal-clear water, memory of a pleasant holiday or the rifle-shots of the war before hardly two decades.

The answers of the open question (N=681) provided clear results; 89,9% of the respondents wrote a neutral word, there were few negative (1,6%) and more but not many positive associations (8,5%). For analysis own categories were defined as the associations could be grouped in separate collections. Category of sea and tourism (83,1%) is outstanding where such words appeared as sea, tourism, the Adriatic and other associations connected to tourism and seaside holiday – it has to be added that these words strengthen the neutral category. Besides these words like the Balkans or the war appeared only in 1,6%, and sport only in 1%. 4,8% of the answers can be mentioned as characteristics where patriotism was the most often one beside friendliness, ability for development, togetherness and peace.

According to Skoko's (2005) theory Hungarians should have been mentioned the red-white chessboard, the tie and the Dalmatian dog as Croatia's symbols. Nevertheless the respondents provided answers similar to the question of associations since 30% of the symbols was connected to the seaside and tourism. Beside this in significant proportion (18,5%) red-white chessboard was mentioned that can be familiar from the football dresses or souvenirs but obviously the flag (10%) and coat of arms (5%) were also present in the findings – all in all 37,4% of the answers were traditional symbols. It is interesting that out of 681 Hungarian respondents only two mentioned the

tie, the meant to be original Croatian symbol, showing that story of the Croatian tie is not really well-known in Hungary as neither the Dalmatian dog's one is.

From the aspect of the image toolkit it could also be important to know what colour or personality is connected to a country. In 69,2% of the cases blue was marked as the joined colour and in 13,4% of the cases red. Besides the white these are the colours of the flag while blue can refer to the sea thus the previous conclusions could be drawn. Findings regarding the brand personality show that 60% of the Hungarian respondents if Croatia would be a person, it would be a man, while only 28% of the answers showed female.

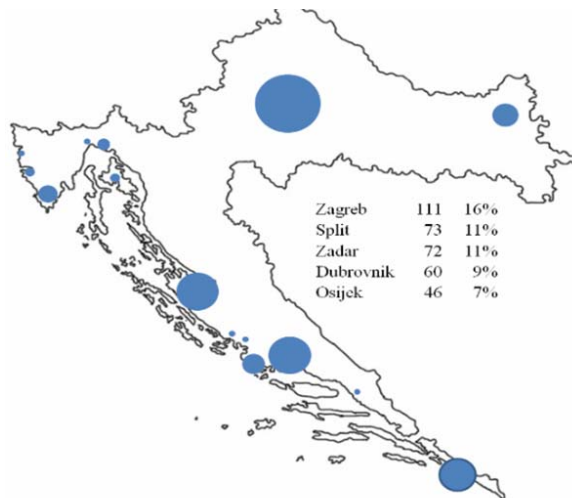
All in all it can be concluded that the Croatian country brand is in the heads of the Hungarian group primarily touristic. Results in the chapter below will refer to some details regarding this.

### 3.3. Association on a Croatian settlement

In an other question the respondents were asked to mention a Croatian settlement. It is obvious that beside the capital, Zagreb (16%), holiday destinations were mostly highlighted thus in high proportion seaside settlements, even those typically small ones. Split (11%) and Zadar (11%) also received quite good results, and Dubrovnik (9%) as well – these seaside resorts are followed by Osijek (7%, 46 respondents) (Figure 1).

All together 57 respondents (8,5% of the sample) gave a settlement from the counties of Eastern Croatia, out of which Osijek-Baranja County is outstanding with 51 and certainly city of Osijek. These show that despite most of the associations are concentrated on the seaside, Osijek is the most well-known after Zagreb. There were less notions for tourism (60,9%) among the ones mentioning Osijek, their first associations regarding Croatia are more in the categories of history, nature, products and different features.

*Figure 1: Associations for a Croatian settlement*



*Source: own editing*

The connected colour was also not necessarily the blue (58,7%), red was marked in high proportion (15,2%) and the tricolour of the flag (8,7%). These respondents also mentioned classic symbols more compared to all the answers (52,2%) and less those related to tourism (17,4%). The brand personality of the country is female as well but all together there are more respondents among them

who have visited Croatia at least three times (69,6%). Half of them is between 25-30 years old, almost half of them men and half women, and more than 60% of them live in Baranya County. While 12,6% of the whole sample claimed to have Croatian roots, 21,7% answered the same, thus almost 10% of this group said Osijek as the first Croatian settlement.

Based on the results of the survey Croatia is a touristic country in the heads of the neighbouring Hungarian but investigating the first settlement that come into their minds the physical vicinity, own experience and the closer relation coming from even these appear to be significant – hence an image about Croatia other than only seaside.

#### **4. Conclusion: implication of the results for tourism-related SME's**

The results show that a typical Hungarian potential tourist connects the sea to Croatia, and probably he or she is looking for seaside location when he or she chooses Croatian destination. This could be a big challenge for the tourism-related SMEs operating in the area of Eastern Croatia, because they are lack of this natural resource. The lack of sea also means the lack of mass tourism, therefore based on the STP process the SMEs from this Croatian region can develop and use niche strategy. The most marketing literature sources (e.g. Rekettye, 2012), which deal with SME marketing, advice this strategy, if the small or medium-sized companies are unable to compete with quantity. It can be an adequate strategy for this Eastern Croatian companies if they aim and try to serve more small segments, which have different needs and wants which are not connected to the seaside.

Based on the empirical result, there are three potential segments or target groups needs of which can be satisfied by these companies. The potential segments are the followings: active South-Transdanubium young adults, the South-Transdanubium silver generation and Croatian nationalities living in the South-Transdanubium region in Hungary. Within this Hungarian region the SMEs should primarily focus on Baranya County. We are going to briefly describe these potential target groups.

The first group consist of young adults from South-Transdanubium preferring active tourism that means instead of sunbathing near the sea, they would like to do outdoor activities, they need active leisure time. In the case of this group the preferred tourism-related services could be programs connected to outdoor exercises like cycling tours or longer (few-day-long) hiking tours. These activities are well-known and favoured by this group, but probably they are willing to do these activities in new and fresh environment. A potential cycling tour can be Pécs-Suza-Osijek-Pécs for three days with visiting the amazing natural environment of Kopačkirít, and an extra program could be here a river trip. This also could be suitable for three-day-long hiking tours and during the tour the tourist also can visit the smaller villages, or a Mohács-Osijek path along Danube can be another alternative path. In this case the SMEs can use the blue colour, which was associated by many respondents during the research. In case such tour offerings and marks are developed this could provide several opportunities for settlements lying by these paths and for development of different tourism-related SMEs as well, being pensions, restaurants, bike-renting establishments or tour organizers. Moreover, these two-three-day-long programs could be appropriate for the prolonged weekends or even on others as these provide actively restful experience for the target group with only one day-off. Base of this position is connected to the ambient for hiking and active rest instead of the sea. Regarding the communication the online tools are suggested as these are preferred by this age group, they can be targeted via internet or even by an application with the help of which they can plan their route, reserve their accommodation, find the sightseeing opportunities nearby. Besides these the opinion leaders of the Hungarian biking groups are suggested to reach as well.

The second possible segment and target group is the silver generation of the region, namely the aging group that does not necessarily need a long and trying travel. Among them arthritic problems could occur for which thermal baths like BizovačkeToplice could provide the solution. In this case competition of the neighbouring Hungarian region can be a problem but that is why these offers could also be augmented such as with bathing supplemented by Nordic walking and the nights spent could also be prolonged by a sightseeing day in a near city. This means that it is worth to consider

to surmount the simple-focused Hungarian products (only bathing, only sightseeing) with a complex, multi-focused one by cooperation of the local tourism-related SMEs that provides restful bathing, exploring the nature by walking and visiting Osijek. Base of this position is the complex experience, restful adventure in the Eastern hearth of Croatia. For these target group communication activities could include throwaways disseminated at places often visited by them such as surgeries, clubs for pensioners and organizing and emphasising group tours can also be outstanding.

Last possible target group could be the Croatians living in the Transdanubium. Based on the research findings Osijek means a lot for the ones of Croatian nationality. With the reason of this it is worthy to organize for this group events such as traditional balls or few-day-long festivals that can help them to enjoy the core of their Croatian roots, the original music, gastronomy and traditions. Moreover, these could be important for the families with small children as well aiming to inherit the habits and culture. In case of this target group the events are emphasised against sightseeing or the active entertainment. Regarding the communication Croatian communities have to be reached as they can serve as a bridge towards the members of the group.

Based on the research shown in present study image of Croatia and image of Osijek is preferable, in case of the latest the problems could lie in the low repute and the Croatian image strongly related to the seaside tourism. If the development of the above detailed tourism products and reaching of these target groups is achieved, development of tourism of Osijek and the surroundings can be reached as well, serving as a basis for geographic broadening towards the whole Hungarian market especially in cases of the first and second group – by being a region not offering seaside experiences but something more.

## REFERENCES

Anholt S. (2005): *Brand New Justice – How Branding Places and Products Can Help the Developing World*, Elsevier Butterworth Heinemann, Oxford

Anholt S. (2007): *Competitive Identity – The New Brand Management for Nations, Cities and Regions*, Palgrave Macmillan, Basingstoke

Cheverton, P. (2005): *A márkaimázsfelépítése – Nélkülözhetetlenútmutató a márkamenedzsmenthez*, Alexandra Kiadó, Pécs

DZS (2015): *Statističkiljetopis Republike Hrvatske*, <http://www.dzs.hr> (accessed: 11 May 2015)

Gerdesics V. (2013): *Turizmus*, in Hajdú Z. and Nagy I. ed.: Dél-Pannónia. Magyar Tudományos Akadémia Közgazdaság- és Regionális Tudományi Kutatóközpont Regionális Kutatások Intézete. Dialóg Campus Kiadó, Pécs-Budapest, pp. 388-415.

Hitrec, T. (2002): *History of tourism with particular reference to the Croatian Adriatic*. <http://en.net/XIIICongress/cd/paper/4Hitrec185.pdf> (accessed 16 November 2011)

Jenes B. (2012): *Azországimázsmérésének elméleti és gyakorlati kérdései. Az országimázs és az ország márkadimenziói és mérésmodellje*. BCE GDI, Budapest

Kotler P. - Haider D.H. - Rein I. (1993): *Marketing places: Attracting Investment, Industry and Tourism to Cities, States and Nations*, Free Press, New York

Kotler, P. – Keller, K. L. (2012): *Marketingmenedzsment*, Akadémiai Kiadó, Budapest



Papadopoulos N. - Heslop L.A. (2002): *Country Equity and Country Branding. Journal of Brand Management*, Vol. 9, No. 4-5, pp. 294-314.

Papp-Váry Á. (2007): *Azországmárkázásszerepeéshatásai: országimázs a kibővültEurópaiUnióban*. NYME KTK GazdaságiFolyamatokElméleteésGyakorlata DI, Sopron

Papp-Váry Á. (2009): *Országmárkázástól a versenyképesidentitásig – A country branding megjelenése, céljaiéstermészete*, Marketing &Menedzsment, Vol. 43. No. 2. pp. 4-19.

Rekettye G. (2012): *Marketing a Magyar kisvállalatoknak*, AkadémiaiKiadó, Budapest

Reményi P. (2006): *Horvátországtér szerkezetének alapvonásai a XXI. századelején*, BalkánFüzetek no. 4., PTE TTK FöldrajziIntézet, Kelet-MediterránésBalkánTanulmányokKözpontja, Pécs

Sándor I. (2003): *A marketingkommunikációkézikönyve*, ANT Stúdió Bt., Budapest

Skoko B. (2005): *Hrvatska – Identitet, Image iPromocija*, Školskaknjiga, Zagreb

**Mirjana Jeleč Raguž, Collegiate Professor**

Polytechnic in Pozega / Social Department

Vukovarska 17, 34 000 Pozega, Croatia

Phone: 00385/34/311-454 Fax: 00385/34/271-008

E-mail address: mjelecraguz@vup.hr

**Nihada Mujić Mehičić, Full Professor**

Faculty of Law in Osijek, Stjepana Radica 13, 31000 Osijek, Croatia

Phone: 00385/31/224-500 Fax: 00385/31/224-540

E-mail address: nmujic@pravos.hr

**SCIENCE-BUSINESS COLLABORATION AS A CONTRIBUTION TO  
THE DEVELOPMENT OF EASTERN CROATIA**

**INTERAKCIJA ZNANOSTI I GOSPODARSTVA U FUNKCIJI RAZVOJA  
ISTOČNE HRVATSKE**

**ABSTRACT**

*Collaboration between scientific and business sector is a theme that is of a great importance both, in Croatia and in the world. However, regardless the importance of the topic, in Croatian professional and scientific literature a deficiency of this type of research is prevailed. With a goal of contribution to the discussion about the potential of science-business interaction for the country's economic development, this paper aims to present the results of conducted empirical research in the field of Croatian scientific and business entities cooperation. This paper examines the intensity, quality and other parameters of the interaction from the perspective of Croatian businessmen. The subject scores on a national level are then compared with the evaluation scores obtained by the examined business entities from eastern Croatia (including five Croatian counties: Brod-Posavina, Osijek-Baranja, Pozega-Slavonia, Virovitica-Podravina and Vukovar-Srijem). In this paper the results of an empirical research are presented. The research is conducted on a sample composed of 120 Croatian companies from all Croatian counties. The highly structured questionnaire is the applied survey instrument and the research was conducted online. Results of the conducted research indicate that there are some differences regarding the intensity of science-business collaboration in eastern Croatia compared to the national average. As the average score of all the collaboration indicators are rather low in general, both at national and regional level, it is necessary to use the potential of the science-business collaboration more significantly to advance the regional economic development of the Republic of Croatia.*

**Key words:** science, business, collaboration, regional development, eastern Croatia

**SAŽETAK**

*Suradnja između znanstvenog i gospodarskog sektora tema je od izuzetne važnosti kako u hrvatskim tako i u svjetskim okvirima. Međutim, bez obzira na značaj teme, u hrvatskoj stručnoj i znanstvenoj literaturi prevladava deficitarnost istraživanja takvog tipa. Kako bi se doprinijelo raspravi o potencijalima interakcije dvaju sektora za gospodarski razvoj zemlje, ovaj rad ima za cilj prikazati rezultate provedenog empirijskog istraživanja u području povezivanja hrvatskih znanstvenih i gospodarskih subjekata u funkciji regionalnog razvoja. U radu se daje ocjena intenziteta, kvalitete i drugih indikatora interakcije iz perspektive hrvatskih gospodarstvenika.*

*Predmetne se ocjene na nacionalnoj razini potom uspoređuju s ocjenama ispitanika iz Istočne Hrvatske (u obuhvatu pet županija: Brodsko-posavska, Osječko-baranjska, Požeško-slavonska, Virovitičko-podravska i Vukovarsko-srijemska županija). U radu su prezentirani rezultati provedenog empirijskog istraživanja na uzorku sastavljenom od 120 vodećih hrvatskih tvrtki iz svih županija. Kao instrument istraživanja korišten je visokostrukturirani anketni upitnik, a anketiranje je provedeno online putem. Rezultati istraživanja ukazuju na to da u odgovorima ispitanika ne postoje značajnija odstupanja u intenzitetu suradnje u Istočnoj Hrvatskoj u odnosu na nacionalni prosjek. Kako su prosječne ocjene svih odrednica suradnje dosta niske, na nacionalnoj i regionalnoj razini, potrebno je suradnju znanstvenog i gospodarskog sektora, s obzirom na njen potencijal, značajnije iskoristiti za unaprjeđivanje regionalnog ekonomskog razvoja Republike Hrvatske.*

**Ključne riječi:** *znanost, gospodarstvo, suradnja, regionalni razvoj, istočna Hrvatska*

## **1. Introduction**

Science-business (S-B) collaboration is a topic of great importance in the 21<sup>st</sup> century, not only for scientists but also for politicians and businessmen. It has become actual due to its contribution to the development of innovation, and thus to the development of industry and economy. Development of the concept of National innovation system (NIS) proved that innovation is one of the essential factors of growth. The easiest way to foster innovation is to encourage the interaction between scientific and business sector. Due to the importance of the mentioned interaction and due to the deficit of its research in Croatia, the empirical research on science-business (S-B) collaboration in Croatia was conducted. This paper aims to present the results of the abovementioned empirical research in domain of intensity and quality of partnership and collaboration and to compare them on the level of eastern and the rest of the Republic of Croatia. The goal is to determine the possible differences between them. The research included 120 companies headquartered in all Croatian counties. For the purposes of this paper companies are divided into two samples. One sample consists of companies from five counties in eastern Croatia (Brod-Posavina, Osijek-Baranja, Pozega-Slavonia, Virovitica-Podravina and Vukovar-Srijem), and the second sample refers to the rest of the country. The evaluation scores of S-B collaboration at national level were then compared with the evaluation scores obtained by the examined business entities from eastern Croatia. The initial hypothesis is that companies from eastern Croatia lag behind, according to the analysed indicators, in relation to the rest of Croatia and according to the national average. The survey instrument was highly structured questionnaire. It was designed online via the web [www.surveymonkey.com](http://www.surveymonkey.com). The representatives from companies are surveyed online. Descriptive statistics have been used to analyse and present the research results.

The paper is structured in four chapters. Following an introduction, the second chapter provides an overview of scientific and professional literature related to the S-B interaction and its impact on innovativeness of companies. The third chapter provides an analysis of the research results conducted in the Republic of Croatia, while the final section contains a concluding summary.

## **2. The Literature Review**

The science-business (S-B) collaboration as an impetus to the development of companies' innovativeness was popularised by the development of theory of National Innovation System (NIS). The theory of NIS appeared shortly after the appearance of Endogenous Growth Theory (EGT). The EGT concept emphasizes the role of endogenous factors of economic growth. The EGT is in line with linear model of innovation that emphasises research and development and education as a main source of economic growth and importance of investment in basic research.

Basic research then leads to an applied research and then to product development and its commercialisation and innovation. According to interactive model of innovation, the main sources of economic growth are no longer research and development (R&D) and education per se (linear model of innovation). The concept emphasizes innovation as a main source of economic growth and the importance of collaboration between science and industry. The originators of interactive model of innovation are considered Kline and Rosenberg (1986). The main feature of the concept is that the economic ability to innovate depends not only on the activities of certain entities (companies, universities, research institution, etc.), but on how these entities collaborate as part of the system. Another concept that promotes S-B collaboration as a stimulus to the development of innovativeness is the theory of innovation system. The author who has used the concept of innovation system for the first time was Christopher Freeman (1987). Exploring the rapid development of Japan, he concluded that even countries with less scientific and research potential can achieve better results in commercialization of their research results. His conclusions correlate with assumptions of interactive innovation theory, according to which innovation is not dependent on the amount of investment in basic research, but on the interactivity of all subjects involved in innovation process.

A few years after the appearance of the Innovation system theory emerged the idea of a National innovation system (NIS) in the textbook of the Swedish economist Beng-Åke Lundvall (1992) and in the textbook of the American economist Nelson (1993) (as an editor). According to Freeman, innovation system includes a network of institutions of private and public sectors whose activities and mutual interactions initiate, import, modify and spread innovation. According to Lundvall NIS includes key organizations that collaborate during the process of production and dissemination of innovations. According to Nelson, NIS is a group of institutions whose interactions determine the innovative performance of national firms (Nelson, 1993). The concept has had already in the mid-1990s many expansions in the form of regional and sectoral innovation system.

After the initial publications of the mentioned authors, in the late 1990s and early 2000s, were published important theoretical and empirical studies about NIS. Numerous empirical studies support the idea that the interaction with scientific institutions favourably influences innovativeness of companies (Jaffe, 1989; Mansfield, 1998; Kaufmann & Tödtling, 2001; George, Zahra & Wood, 2002; Švarc, 2002; Belderbos et al., 2004; Lööf & Broström, 2008; Yang, Motohashi & Chen, 2009; Eom & Lee, 2010; Aissaoui, 2010; Guan & Zhao, 2013). For instance, Jaffe (1989) has proven in his empirical study that university research significantly influences number of corporate patents, especially in the field of pharmaceutical products and preparations, medical technology, electronics, optical and nuclear technology. Mansfield (1998) has published that 15% of new products developed in the United States, in the observed period from 1986 to 1994, would not be developed without support by academic research (the research encompassed companies from seven different industries).

Kaufmann and Tödtling (2001) concluded that the interaction with science stimulates innovativeness of companies. They claimed that is because of far greater sources of knowledge available to the companies than in cases of interactions within individual companies. However, according to the research results, a positive influence on companies' inventiveness is generated not only by universities but also by suppliers and consultants, while consumers did not impart any positive impact. George, Zahra and Wood (2002) have proven that companies which cooperate with universities (n=97), unlike those which do not have such relationship in place (n=50), have a greater number of registered patents and significantly lower R&D costs than companies which have not developed the interaction processes. Belderbos et al. (2004) have proven that formal collaboration with universities and research institutes improves technological capabilities of R&D activities within companies as well as their efficiency, thereby indicating that universities are significant sources of knowledge for radical innovations.

Lööf and Broström (2008) have proven that S-B cooperation had a favourable effect on large Swedish companies (employing 100 or more) in terms of their innovative sales and tendency to register patents. Furthermore, Yang, Motohashi and Chen (2009) indicated through their empirical findings that level of innovation of new technology-oriented companies located in a scientific park significantly exceeded innovativeness of companies found outside such parks. The reasons are networking opportunities afforded by the park and better links with scientific institutions. Using Korean national survey aimed at innovation culture evaluation (Innovative Survey), Eom and Lee (2010) have proven a positive correlation between collaboration with universities and production innovation in innovative companies in the Republic of Korea. Using a general sample of 2171 companies found in the fifth French national innovation culture survey (French Community Innovation Survey), Aissaoui (2010) has proven that collaboration with scientific institutions has a favourable effect on intensity of innovation in French companies. Guan and Zhao (2013) made an empirical research of the university-industry patent collaboration in the nanobiopharmaceutical field.

In Croatian science, there are only several authors, who have studied the S-B collaboration, and its impact on innovativeness of companies. Žuvela (1993) is among the first authors who wrote on S-B cooperation in general terms. A similar conclusion also applies to Brunsko (1995) who indicated significance of technological parks as bridges between companies and universities for development of the economy. Although both of the authors do not analyse the influence of collaboration on innovativeness. In their paper, Švarc, Grubišić and Sokol (1996) indicate that collaboration of industry and research organisations in Croatia is at a low level and that there are significant obstacles presented by both sides. Švarc (2001) furthermore wrote about the national innovation system and concluded that the existing R&D system in Croatia is characterised by a lack of infrastructural institutions, financial instruments, programmes and government incentive policies aimed at advancement of partnerships between science and business and commercialisation of research results (Švarc, 2001, 1067). In her paper, Radas (2005) described research results related to entrepreneurs' motives for collaboration with the scientific community, satisfaction with the collaboration and how it affected selected indicators of innovativeness. Radas determined that intensity of science-economy collaboration in the Republic of Croatia does not contribute to an increased number of patents or a greater proportion of income generated by new products. Radas and Vehovec (2006) researched S-I interaction from the scientists' point of view. Their paper primarily focuses on research of scientists' motivation for the cooperation and their perception of obstacles.

Jeleč Raguž et al. (2015) present in their paper the results of evaluation scores of S-B collaboration in Croatia from the entrepreneurs' and scientists' point of view. The goal was to determine how they evaluate the S-B interaction and if there is a difference in its perception between scientists and entrepreneurs. It was found that there are certain differences in the perception of collaboration among scientists and entrepreneurs. Jeleč Raguž (2014) further found that the most commonly used models of cooperation in Croatia are the routine one. That kind of interactions are not so much directed towards an increasing of innovation activities. The most commonly used models of collaboration in Croatia are performing students' professional practice, informal contacts and professional training. Models of cooperation which are less common, but actually contribute to the innovation of business sector are joint projects, joint research, joint production of codified knowledge, commercialization of research results and the like.

The literature review presented an overview of scientific papers that dealt with the influence of S-B collaboration on innovativeness of companies. A conclusion which may be drawn from the review of Croatian publications is that Croatian authors have not yet sufficiently tackled the topic.

### 3. Science-business Collaboration in the Republic of Croatia: National and Regional Level

#### 3.1. Methodological Framework of the Research

Regarding that main goal of this paper is to compare the intensity and other indicators of S-B collaboration in the Republic of Croatia and eastern Croatia, this paper presents the results of the empirical research<sup>1</sup>, conducted in 2011. The research was conducted online, using the questionnaire, on 120 companies in different part of Croatia. In the researched sample were selected leading companies from all Croatian counties, according to the generated revenue in 2010. Within a company, the respondent was head of a research and development department. If a company did not have such a department, the questionnaire was fulfilled by a chairman, board member or director. The structure of the researched companies according to the county of their headquarters is presented in Table 1.

*Table 1 The structure of the surveyed companies according to the county of headquarters*

County	The total number of companies (N1+N2)	County	The total number of companies (N1+N2)
Bjelovar-Bilogora	2	Požega-Slavonia	4
Brod-Posavina	5	Primorje-Gorski Kotar	10
City of Zagreb	38	Sisak-Moslavina	1
Dubrovnik-Neretva	2	Split-Dalmatia	6
Istria	3	Šibenik-Knin	4
Karlovac	0	Varaždin	5
Koprivnica-Križevci	2	Virovitica-Podravina	2
Krapina-Zagorje	5	Vukovar-Srijem	3
Lika-Senj	1	Zadar	2
Međimurje	2	Zagreb County	14
Osijek-Baranja	9	<b>Total</b>	<b>120</b>

*Source: Results of the empirical research*

This paper analyses the existence of collaboration between companies from the searched sample and scientific institutions, the evaluation of S-B collaboration intensity from the companies' representatives' point of view, other indicators of collaboration and companies' innovativeness. Then, the comparison of the difference between the two samples according to the analysed intensity/quality of collaboration and innovativeness, was conducted. First sample refers to companies from five counties in eastern Croatia, and the second one refers to companies from the rest of Croatia. Nowadays, according to the National Innovation System Theory, innovation is considered as one of the most important sources of economic growth. Thereby, this paper advocates fostering of the S-B collaboration with an aim of increasing the innovativeness of companies, which has been proven many times in scientific papers. The goal of this paper is to indicate if there is a difference between eastern and the rest of Croatia according to the analysed indicators of collaboration and innovativeness.

The Republic of Croatia is divided into 20 counties plus the city of Zagreb. For the purposes of this paper, to the eastern Croatia were added five (5) counties (Brod-Posavina, Osijek-Baranja, Požega-Slavonia, Virovitica-Podravina and Vukovar-Srijem), while the remaining counties represent the rest of Croatia.

<sup>1</sup> The research was conducted for the purpose of the doctoral dissertation "Science-Industry Collaboration in the Function of Regional Development" and it is conducted in a much broader context in relation to this paper.

The questionnaire was designed by the authors of this paper and the surveying was conducted online via the web SurveyMonkey (www.surveymonkey.com). The questionnaire was consisted of three main parts. In the first part only the basic information about the company was asked. Second part was consisted of questions about the innovativeness of a company. In the third part the data about collaboration with scientific institutions were asked. For the purposes of this paper only the answers of respondents regarding the S-B collaboration and innovativeness of a company, were taken into account. That is, only the answers that are related to the subject of research in this study.

The indicators by which the difference between companies from eastern Croatia and the rest of Croatia (according to the subject of research) were tested are as following: the existence of collaboration between companies and research institutions; evaluation scores of the intensity of collaboration; quality of collaboration; its impact on innovativeness and improvement of the company's financial results; answers related to innovativeness of a company and the use of higher education institutions in company's innovation activities. The respondents' answers relate to the period of the last three years prior to research, that is from 2008 to 2010. In analysing the research results, descriptive statistics have been used.

### 3.2. Results of the Empirical Research in Eastern Croatia and on National Level

The research conducted in Croatia included 120 companies that have headquarters all across the country. For the purposes of this paper companies are divided into those located in eastern Croatia (23 of them, N1 sample) and companies that are headquartered in the rest of Croatia (97 of them, N2 sample). The goal was to realize if eastern Croatia is lagging behind the rest of Croatia according to the analysed indicators. The assumption that eastern Croatia is lagging behind the rest of Croatia, arose due to some objective reasons. Namely, according to most economic indicators, eastern Croatia lags behind the rest of Croatia as well as behind the national average (unemployment rate, GDP per capita, migration, etc.). To test the difference between the two samples (N1 and N2), according to the indicators relating to the intensity and quality of collaboration and the like, it was necessary to divide every sample on those that had realised collaboration with scientific sector and those that had not had. Therefore, the both samples (N1 and N2) are divided on those that had collaboration and those that had not had. The answers of the respondents to the question whether in the last three years prior to research (2008-2010) their company have any form of collaboration with scientific institutions in the Republic of Croatia, are provided in Table 2.

**Table 2** Realisation of science-business collaboration in Croatia (2008-2010)

Have your company realised any form of collaboration with scientific sector in the Republic of Croatia with a goal of a knowledge transfer (in period 2008-2010)?						
	Eastern Croatia		The rest of Croatia		The whole Croatia	
	N1=23	Share (%)	N2=97	Share (%)	N=120	Share (%)
Yes	7	30	39	40	46	38
No	14	61	52	54	66	55
I do not know	2	9	6	6	8	7
<i>Total Respondents</i>	23	100%	97	100 %	120	100%

*Source: Authors' editing according to the results of the empirical research*

At national level, most of the respondents replied that their company was not involved in any form of collaboration with scientific sector in the observed period. That indicates the necessity to improve the S-B collaboration, if a faster economic growth is a goal in the Republic of Croatia. If we compare the N1 and N2 sample, it is evident that the smaller proportion of those with collaboration had the N1 sample (eastern Croatia). In eastern Croatia only 30% of respondents

replied that they have collaborated with scientific institutions. In the rest of Croatia the analysed share is 40%.

With an aim of testing the difference between N1 and N2 sample, in table 3 are presented the average scores by which the respondents evaluated the intensity, quality and other parameters of their collaboration with higher education institutions. In doing so, in the evaluation have participated only the respondents who had positively responded to the previous question (implementation of collaboration). Indicators of collaboration are presented in Table 3 as well as the average score of respondents.

**Table 3** Average score of intensity, quality and results of collaboration according to the respondents' assessment (2008-2010) (1 – very low, 5 – very high)

	Eastern Croatia (N1=7)	The rest of Croatia (N2=39)	The whole Croatia (N=46)
	$\bar{X}$	$\bar{X}$	$\bar{X}$
Intensity of collaboration	1.6	2.1	1.8
Quality of collaboration	1.7	2.4	2.0
Impact of collaboration on company's innovativeness	1.9	2.2	2.0
Impact of collaboration on improving the financial results of the company	1.6	1.9	1.7
Impact of collaboration on increasing the number of employees in the company	1.5	1.8	1.6

Source: Authors' editing according to the results of the empirical research. In the assessment participated only respondents who positively replied to the previous question (realised collaboration).

Table 3 presents the evaluation scores of five S-I collaboration indicators. Each respondent assessed only the collaboration between its company and scientific sector. It can be concluded that participants from eastern Croatia generally have assessed their cooperation with higher education institutions with lower scores than it is a case at national level and especially in the rest of Croatia.

The participants were asked if their company have introduced any form of innovation (new product, service and / or manufacturing process) in the last three years (2008-2010)? The proportion of affirmative answers can be seen in Table 4.

**Table 4** Implementation of innovations in narrow sense (2008-2010)

	Eastern Croatia (N1=23)		The rest of Croatia (N2=97)		The whole Croatia (N=120)
	Affirmative answers (Yes)	Share (%)	Affirmative answers (Yes)	Share (%)	Share (%)
New or significantly improved product	10	43.5	39	40.2	41.8
New or significantly improved service	5	21.7	44	45.4	33.5
New or significantly improved production process	12	52.2	43	44.3	48.2
Expansion to new markets (domestic and foreign)	13	56.5	59	60.8	58.6

Source: Authors' editing according to the results of the empirical research. In the assessment participated all respondents. It is about innovativeness of the company regardless the collaboration with science.



According to the distribution of companies on those that had some form of innovations in the observed period, it is not possible to reveal any difference between the sample N1 and N2. The proportion of companies that have implemented new products is slightly higher in the sample N1, but the proportion of companies that have implemented new services is a significantly higher in a sample N2. From the data shown in table 4 it is not possible to draw a conclusion that companies from N1 sample are less innovative.

For a deeper insight into the innovativeness of companies, the respondents were asked to specify the number of implemented innovation in their company in the observed period (2008-2010). Innovations that they were supposed to indicate relate to innovations in the narrow sense, and they include new or significantly improved products, services and / or production processes. The respondents were also asked to specify the number of innovations that have occurred in collaboration with higher education institutions (HEIs). Therefore, the first indicator in Table 5 refers to the total number of innovations in the company, and the second one refers to the number of innovations developed in collaboration with HEIs.

**Table 5** The average number of implemented innovations in companies from the sample N1 and N2 (2008-2010)

	Eastern Croatia (N1=23)	The rest of Croatia (N2=97)	The whole Croatia (N=120)
	The average number of innovations per company from N1 sample	The average number of innovations per company from N2 sample	The average number of innovations per company in N sample
Number of innovations (new and / or significantly improved product / service / production process)	3.35	5.29	4.32
Number of innovations resulting from collaboration with HEIs	0.27	0.54	0.40

*Source: Authors' editing according to the results of the empirical research. In the assessment participated all respondents.*

The research results indicate that companies from N2 sample are more innovative in relation to companies from N1 sample, since the average number of implemented innovations per company is higher in N2 sample. Furthermore, the share of innovations resulting from cooperation with HEIs is also higher in companies from N2 sample.

In the next question the respondents evaluated the innovativeness of their company according to their estimation. The average grades are presented in Table 6.

**Table 6** Assessment of the company's innovativeness according to the respondents' estimation (1 – very low, 5 – very high)

	Eastern Croatia (N1=23)	The rest of Croatia (N2=97)	The whole Croatia (N=120)
	The average grade	The average grade	The average grade
Innovativeness of a company	3.13	3.34	3.23

*Source: Authors' editing according to the results of the empirical research. In the assessment participated the all respondents.*

According to data from Table 6 it is indicative that companies from N2 sample are evaluated with slightly higher grade. The average grade of innovativeness, for the total sample (whole Croatia), according to the respondents' assessment is 3.23 (range 1-5).

The utilisation of higher education institutions (HEIs) as a source of information in innovation activities within companies is presented in Table 7.

**Table 7** *The utilisation of HEIs as a source of information in innovation activities (1 never, 5 very often)*

	Eastern Croatia (N1=23)	The rest of Croatia (N2=97)	The whole Croatia (N=120)
	The average grade	The average grade	The average grade
HEIs as a source of information	1.78	1.92	1.85

*Source: Authors' editing according to the results of the empirical research. In the assessment participated all respondents.*

Higher average grade have companies from N2 sample, although that difference was not so significant. However, it is important to emphasize that the level of utilisation of HEIs in innovation activities of Croatian companies is generally at very low level (between never and very rare). Regarding that, as the literature review indicates, S-B collaboration foster the innovation, it is necessary to find mechanisms to encourage that kind of cooperation in Croatia, with an aim of achieving the faster regional economic development. It is necessary to put science into the context of regional economic implementation.

#### 4. Conclusion

The main objective of this paper was to present results of empirical research in field of connecting Croatian scientific and business entities in the function of regional economic development. Croatian businessmen evaluated the intensity, quality and other parameters of cooperation of their company with scientific institutions. Surveyed companies, for the purposes of this paper, are divided by county. Companies from five eastern counties are classified in eastern Croatia (Brod-Posavina, Osijek-Baranja, Pozega-Slavonia, Virovitica-Podravina and Vukovar-Srem). The results of the research and assessment from the perspective of companies' representatives from eastern Croatia then were compared to the rest of Croatia. The initial hypothesis is that due to weaker development of eastern Croatia, companies from eastern Croatia lag behind, according to the analysed indicators, in relation to the rest of Croatia and national average. Analysis of research results, that is S-B collaboration and innovativeness of the surveyed Croatian companies, revealed that Croatian economy is not enough innovative and that S-B cooperation is at low level. The average score of S-B collaboration, of those who have had some form of business cooperation with scientific sector, according to five analysed indicators, is only 1.82 (on a scale from 1 to 5). This should be complemented with a fact that 55% of surveyed companies did have not any form of interaction in the analysed period. Furthermore, if we compare the scores for eastern Croatia in relation to the value of indicators for the rest of Croatia, it is apparent that the situation is even worse. According to the indicators of collaboration as well as according to the indicators of innovation, companies in eastern Croatia are lagging behind in relation to the national average. The mentioned gap is not huge, but it is still visible, according to the analysed indicators. Therefore, the results of research are in accordance with the initial assumption, that there are noticeable differences in the intensity of cooperation and innovation between economic subjects depending on the territorial origin. If we complement that assumption with a fact that more than half of the surveyed companies in the observed period did not have and business cooperation, it can be concluded that S-B

collaboration, regarding its potential, can be better used for improving the regional economic development of the Republic of Croatia. As eastern part is underdeveloped part of Croatia, a recipe for boosting the development is to encourage the effective transfer of knowledge / technology between the two sectors. Therefore, science in the context of commercial applications, encouraging the collaboration and effective transfer of knowledge / technology are urged as the fundamental recommendations of this paper and proposed as the topic for future scientific research.

## REFERENCES

- Aissaoui, S. (2010): *University-industry collaboration and firms' innovative performance: evidence from French Data*. La Garde Cedex (France): Université du Sud Toulon. Available at: <http://lead.univ-tln.fr/fichiers/Caire2010/Aissaoui-University-industry%20collaboration%20and%20firms%20innovative%20performance.pdf> (Accessed February 10, 2015)
- Belderbos, R., Carree, M., Diederer, B., Lokshin, B. & Veugelers, R. (2004): *Heterogeneity in R&D cooperation strategies*, International Journal of Industrial Organization, Vol. 22, No. 8-9, pp. 1237-1263.
- Brunsko, Z. (1995): *Tehnološki parkovi i njihova uloga u gospodarskom razvoju*, Ekonomska misao i praksa, Vol. IV, No. 2, pp. 321-334.
- Eom, B. Y. & Lee, K. (2010): *Determinants of industry-academy linkages and, their impact on firm performance: The case of Korea as a latecomer in knowledge industrialization*, Research Policy, Vol. 39, No. 5, pp. 625-639.
- Freeman, C. (1987): *Technology Policy and Economic Performance: Lessons from Japan*, Pinter Publishers, London.
- Freeman, C. (1995): *The National Systems of Innovation in Historical Perspective*, Cambridge Journal of Economics, Vol. 19, No. 1, pp. 5-24.
- George, G., Zahra, S. A. & Wood, D. R. (2002): *The Effects of Business-University Alliances on Innovative Output and Financial Performance: a Study of Publicly Traded Biotechnology Companies*, Journal of Business Venturing, Vol. 17, No. 6, pp. 577-609.
- Guan, J. & Zhao, Q. (2013): *The impact of university-industry collaboration networks on innovation in nanobiopharmaceuticals*, Technological forecasting & social change: an international journal, Vol. 80, no. 7, pp. 1271-1286.
- Jaffe, A. B. (1989): *Real Effects of Academic Research*, The American Economic Review, Vol. 79, No. 5, pp. 957-970.
- Jeleč Raguž, M. (2014): *Models of Science-Industry Collaboration in the Republic of Croatia*, in: The Proceedings of the 4<sup>th</sup> International Conference "Vallis Aurea" Focus on: Regional & Innovation Development, Požega and Vienna: Polytechnic in Pozega and DAAAM International Vienna, September 18-20, 2014, pp. 0249-0257.
- Jeleč Raguž, M., Budimir, V. & Letinić, S. (2015): *Interakcija znanosti i gospodarstva u Republici Hrvatskoj*, Zbornik radova (Journal of Economy and Business), Vol. 2015, No. XXI, pp. 96-110.

Kaufmann, A. & Tödtling, F. (2001): *Science-industry interaction in the process of innovation: the importance of boundary-crossing between systems*, Research Policy, Vol. 30, no. 5, pp. 791-804.

Kline, S.J. i Rosenberg, N. (1986): *An overview of innovation*, in Landau, R. and Rosenberg, N., ed.: *The Positive Sum Strategy: Harnessing Technology for Economic Growth*, National Academy Press, Washington D.C., pp. 275-305.

Lööf, H. & Broström, A. (2008): *Does Knowledge Diffusion between University and Industry Increase Innovativeness*, Journal of Technology transfer, Vol. 33, No. 1, pp. 73-90.

Lundvall, B. Å., ed. (1992): *National Systems of Innovation: Towards a Theory of Innovation and Interactive Learning*, Pinter Publishers, London.

Mansfield, E. (1998): *Academic research and industrial innovation: An update of empirical findings*, Research Policy, Vol. 26, No. 7-8, pp. 773-776.

Mujić, N. (2009): *Ekonomija znanja – imperativ za budućnost*, Pravni vjesnik, Vol. 2009, No. 1, pp. 65-75.

Nelson, R. R., ed. (1993): *National Innovation Systems. A Comparative Analysis*, Oxford University Press, New York.

Radas, S. & Vehovec, M. (2006): *Industry-Science Collaboration in Croatia: Academics' View*, Društvena istraživanja, Vol. 15, No. 3, pp. 345-369.

Radas, S. (2005): *Motivacijski faktori, intenzitet i rezultati suradnje gospodarstva i znanosti*, Privredna kretanja i ekonomska politika, Vol. 15, No. 102, pp. 61-80.

Švarc, J. (2001): *Što je nacionalni inovacijski sustav i je li on potreban i moguć u Hrvatskoj*, Ekonomski pregled, Vol. 52, No. 9-10, pp. 1053-1077.

Švarc, J., Grubišić, G. & Sokol, S. (1996): *Contract research as an indicator of science-industry co-operation in Croatia*, Science and Public Policy, Vol. 23, No. 5, pp. 305-311.

Yang, C. H., Motohashi, K. & Chen, J. R. (2009): *Are New Technology-based Firms Located on Science Parks Really More Innovative? Evidence from Taiwan*, Research Policy, Vol. 38, No. 1, pp. 77-85.

Žuvela, I. (1993): *Znanstveno-tehnološki parkovi – pokretači regionalnog razvoja*, Zbornik radova Ekonomskog fakulteta Rijeka, Vol. 1993, No. 11, pp. 107-123.

**Mladen Rajko, Assistant Professor**

University of Zadar, Department of Economics  
Splitska 1, 23 000 Zadar  
Phone: 023/ 400 410  
E-mail address: mrajko@unizd.hr

**Berislav Bolfek, Assistant Professor**

University of Zadar, Department of Economics  
Splitska 1, 23 000 Zadar  
Phone: 023/ 400 410  
E-mail address: bbolfek@unizd.hr

**Jurica Bosna, Assistant**

University of Zadar, Department of Economics  
Splitska 1, 23 000 Zadar  
Phone: 023/ 400 406  
E-mail address: jbosna@unizd.hr

**PROPOSAL OF THE PUBLIC-PRIVATE PARTNERSHIP MODEL IN  
FUNCTION OF LOCAL GOVERNMENT DEVELOPMENT**

**PRIJEDLOG MODELA JAVNO-PRIVATNOG PARTNERSTVO U  
FUNKCIJI RAZVOJA LOKALNE SAMOUPRAVE**

**ABSTRACT**

*Public-private partnership is a term for various types of arrangements reached by government, local (regional) municipalities and other public persons with natural or legal persons from private sector. It is about specific approach of construction or reconstruction infrastructural and social projects with the help and participation of the private sector. By this collaboration, interest of public (public good) and private (profit) sector has been interconnected on different ways with the aim of satisfying certain needs for quality enhancement and availability of products and services. On the basis of analyzed literature and two successful case studies, authors proposed model of the public-private partnership for the purpose of local government development which has not yet been envisaged as the most appropriate.*

**Keywords:** *Public-private partnership, public sector, private sector, local municipality, Mon Perin d.o.o., CEROT d.o.o.*

**SAŽETAK**

*Javno-privatno partnerstvo skupni je naziv za različite vrste oblika poslova koje zaključuju država, jedinice lokalne (regionalne) samouprave i druge osobe javnog sektora s fizičkim i pravnim osobama privatnog sektora. Radi se o principu izgradnje ili rekonstrukcije infrastrukturnih i društvenih projekata uz pomoć i uz sudjelovanje privatnog sektora. Tim se načinom na razne načine povezuje interes javnog sektora (opće dobro) i privatnog sektora (profit), a u cilju zadovoljavanja određenih potreba za povećanjem kvalitete i dostupnosti proizvoda i usluga. Na temelju analizirane literature*

*te dva upješna primjera iz prakse autori iznose prijedlog modela javno-privatnog partnerstva u funkciji razvoja lokalne samouprave koji još nije razmatran kao najprikladniji model.*

**Ključne riječi:** *Javno-privatno partnerstvo, javni sektor, privatni sektor, lokalna samouprava, Mon Perin d.o.o., CEROT d.o.o.*

## **1. Introduction**

Collaboration between the public and the private sector has grown into a specific and widely applicable form and method of optimizing social development. Lately, turmoil in the economy has led to many mergers, acquisitions and new forms of cooperation, indicating that the future of sustainable development lies in the collaboration of all market actors, or, in other words, in bringing together the public and the private sector (Rajko et al., 2008).

The growing public needs, more expensive and complex infrastructural projects in the last twenty years are facing state and the public sector with the lack of money and budget constraints while classic method of financing became unsustainable. This situation, as well as the process of economic liberalization and privatization of state-owned companies in the UK, and then in the other EU countries, encouraged to consider medium variant between the two extremes - state funding and privatization (Persoli, 2010).

It has been fundamentally changed the way of financing public capital projects. There is a growing importance of the mutual cooperation between the public and private sector due to low public budget, lack of public efficiency and on the other hand, private capital which can be invested in such a projects and ensure necessary effectiveness (Sabry, 2015; Boardman et al., 2015).

Public needs used to be satisfied from the state budget, but development of private sector generated interest for investing private capital in public sector. Therefore, private and public sector launch joint ventures while Udovičić and Mečev (2011) point out how private sector can encourage public sector for continuous and efficient service provision.

The purpose of this paper is to analyse characteristics of public-private partnership, give examples of good practice and to finally propose model of the public-private partnership for the purpose of local government development which has not yet been envisaged as the most appropriate. Paper aims to contribute for a better understanding of public-private partnerships and therefore its easier application in the Croatian and EU practice based on the proposed model.

## **2. The Concept of Public-Private Partnership**

Aralica (2007) states how in the process of financing new and maintaining existing infrastructure facilities have been used three basic models: public (state) financing, private financing and mix financing (public-private partnership).

Public-private partnership is a term indicating a range of various arrangements reached between the state and other entities in the public sector with natural and legal persons from the private sector (Rajko, 2008). This is a model of delivering public works and implementing social projects with the support and cooperation of the private sector, which has been developing for the last twenty years. To facilitate implementation of projects, many European countries have adopted specific provisions or guidelines providing a legal framework for and directing the execution of these projects.

Public-private partnership should be viewed as a method of bringing together, in different ways, the interests of the public (common good) and the private sectors (profit), with the objective of increasing quality and availability of products and services (Brol, 2014). As a specific model of funding, constructing, renovating, managing or maintaining infrastructure or providing services, public-private partnership has several characteristic features, the most important of which are:

- The private-sector partner elaborates the project documentation or receives it from the public-sector if it already exists. The private-sector partner then builds, funds, maintains and operates the asset in exchange for a recompense
- The relatively long duration of the contractual relationship, often as long as 30 years
- The project is partly funded by the private sector, so enabling savings by the public sector
- The private-sector partner has an important role, in that it participates in the various stages of the project (design, construction, reconstruction, upgrading, implementation, funding)
- The sharing of risk between the public and the private sector; in other forms of contractual relationships, the risk is borne by the public sector.

In addition to specific characteristics, the public-private partnership model has goals which are common to both the private and public sectors. These are: contracting and executing a large number of projects; natural, market-governed, allocation of risk between private entities and public authorities aimed at efficient and effective public expenditure; tapping the greater efficiency of private entities by enabling them to carry out works in an effective and efficient manner, and to manage the assets in a more effective and efficient way than government units; creating added value by pooling resources, efforts and knowledge of the public and private sectors; increasing the productivity of competition; the rational use of public and private economic capabilities; transparency in selection and contracting; finding new solutions for the construction and maintenance of public infrastructure; medium to long-term stimulation of economic activities, rational use of public funds to the benefit of all users of public services (Rajko, 2008).

Considering all of the above, the term public-private partnership can be defined as a form of collaboration between public sector bodies and private entities, the objective of which is to ensure funding, construction, reconstruction, management or maintenance of assets, or the provision of services (Rajko et al., 2008).

According to Xuequng (2005) some of the reasons for supporting private financing of local public infrastructure are: private sector is operationally more efficient than the public sector and therefore brings more effective decisions about utilization of resources; private funding prevails the restrictions in public budget, private sector has improved management skills and technology while provides greater efficiency of the project; involvement of the private sector in tenders increase competitiveness and reduces monopoly of the public sector.

Stainback (2006) and Vasilescu et al. (2010) define obstacles for conducting public-private partnership like mutual mistrust and lack of understanding of the interests and needs of the other side, lack of information at the local level and experience in creating successful partnerships and existence of legal, political and institutional obstacles for creation of effective public-private relationships.

The public sector often ignores standards of economic efficiency while the responsibility and risk for irrational spending of public money almost does not exist. But, private sector carefully selects projects according to the method of net present value or the rate of return on invested capital. Therefore, according to Andrews and Entwistle (2010) added value can be achieved by the public-private partnership in a manner of rationality in managing the projects and should have higher standard of service.

The practice of implementation of the public-private partnership differs in the European Union due to different types of models, sectoral structure of selected projects, adjustments of the legal and institutional framework, etc. Any form of public-private partnership is specific with regard to the manner of association and allocation of risk. Public-private partnership has been developing since the 1980s and is constantly taking on new forms of association having their own specific characteristics. It should be noted that public-private partnership represents a new philosophy that the country returns to a framework that enables it to be more focus on its original functions: the representation of the citizens and provision of the services that can't be transferred to the private sector (Rajko, 2008).

### **3. Public-Private Partnership in the Republic of Croatia**

There are great possibilities of application public-private partnership model in the Republic of Croatia. This kind of model can be applied for a projects such as roads, city transport, water supply and sewage, airports, power lines, hospitals, health centers, primary and secondary schools, buildings for the needs of universities, dormitories, facilities intended for the needs of the government, judiciary, defense, facilities for the needs of counties, cities and local governments (Lovrinčević et al., 2015).

In order to encourage wider use of the PPP model cession, as in Croatia, as well as in the EU countries, it is necessary to make an effort for the following activities:

- develop consistent legislative framework
- clarify the rules in the PPP model
- develop new financial instruments
- identify certain projects by which can be achieved significant benefit if managed by PPP model
- develop an institutional framework within the public sector.

EU recommendations are going in the direction of combining EU funds with private capital and use of the PPP model in as many cases (including structural, cohesion and IPA funds). PPP model relieves the current government borrowing and reduces risk for public sector.

Each state can attract Foreign Direct Investments by the model of public-private partnership due to the fact that these model are diversified and flexible according to the conditions and characteristics of the country (Collin, 1998). This interest exists particularly in transition countries, developing countries and least developed countries. In order to provide attractive projects and investment guarantees, state carries out and legal changes which will enable achievement of desired conditions by attracting FDI through PPP (Rajko, 2008).

The first agreements on public-private partnership in Republic of Croatia were contracted in 2006 and 2007 when the law had not been drawn. At the time there were only Guidelines for Contracted Model Application from 2006 and then Regulation on Issuing Prior Consent for Drawing a PPP Agreement. The first Law was drawn in 2008 and was followed by a series of Regulations from 2009 and Regulations on PPP Project Organization and Management. The valid Law on Public-Private Partnership was drawn in from 2012 as well as Regulations on PPP Project Implementation (Car-Pušić, 2014).

The accompanying documents are also of significance – manuals from 2012 published by the Agency for Public-Private Partnership which, each of them in their own segment, offer significant help to public clients and private partners because they deal with crucial matters such as PPP project preparation, contracting and implementation (discounting, creation of a financial model, creation of public sector cost comparatives, agreement structure, selection of the private partner, recommendations for risk allocation and identification



and other) (Manuals on Public-Private Partnership Model Preparation and Implementation 1-9, 2012) according to Car-Pušić, 2014).

Clearly defined business framework in the country, which introduces and accepts method of public-private partnerships for the development and funding, instills great confidence to private companies and investors in making decisions about financing and implementation of the project. Private sector does not want to invest financial resources in projects which do not provide a clear and favorable business conditions. Therefore, analysis of market conditions and prices is inevitable because private investors make their decisions based on the security of the investment and the possibility of making profits (Rajko, 2008).

In the Republic of Croatia since its independence until now, cooperation between the public and the private sector played a significant role in the development of infrastructure projects and the provision of services. Recently, more complex models of public-private partnerships in science, education, housing, construction of building and public administration and construction of sports facilities occurs in practice. Along with the development of private-public partnership has been developing economic activities, but also strengthen the professional and technical capabilities of the public sector (Barković and Širić, 2010).

Besides the usual opportunities but also the problems which are usually encountered when applying the public-private partnership models, several characteristics must be pointed out when talking about Croatia, which are essential for applying and implementing the model under Croatian circumstances. The application of these models can undoubtedly result in new investments into public projects, that is, an investment growth, which, in turn, causes meeting the public infrastructure requirements. By starting such an investment cycle, a considerable contribution to the aimed GNP growth could be made. Since the subject is the private capital investment which is by its nature very sensitive to problems, risk and uncertainties, the problems which may occur are significant ones and have to be anticipated, the best solution for which is knowledge and good preparation. On the other hand, since the subject is a long-term relationship between the public and the private partner, significant financial amounts and numerous risks, it is an imperative to have mutual relations well defined in the agreement because by doing so potential misunderstandings and even potential future disputes during the structure utilization can be avoided (Car-Pušić, 2014).

#### **4. Case Studies**

##### **Mon Perin**

The Municipality of Bale in Istria, with the agreement of all political parties, is carrying out the "experiment" of transforming the local community into a working entrepreneurial entity, the activity of which should be guided by the principles of sustainable development and rational use of natural resources. For this reason, at the end of 2005, the Municipality of Bale, its citizens and their "friends" – individuals willing to take part in the project – established the company Mon Perin d.o.o. Over three years, the initial equity of the company grew from 12 million kunas (approx. 1.6 million euros) provided by 740 founders to 30 million kunas (approx. 4.1 million euros) with 900 shareholders, most of whom are still local inhabitants, without whose approval, under company statute, no major decision can be passed (Rajko et al., 2008).

The deed of establishment lays down that that the Municipality of Bale and investors from its territory have 50 plus one votes in the shareholders' assembly. The Municipality of Bale has invested only 50.000 kunas (approx. 7.000 euros) in company equity, so it owns a small number of shares and expects no significant profit from dividends, but revenue will be generated by leasing land and granting construction permits. Bale has acquired over 200 hectares of land in the coastal area, which generates increasing profit. This innovative project in Mon Perin in the Municipality of Bale has not only anticipated the success of a similar arrangement between the state and the county, called "Brijuni rivijera" – which partly covered the territory of the Municipality – but has also enabled the Municipality to have decisive influence on tourism development on its territory.

This was achieved by means of a social contract containing a number of clauses securing for the local government decisive influence in managing tourism development. The role of Mon Perin Ltd. is to apply a business management approach to the development of the Municipality; first of all, it manages the most valuable resources and municipal land set apart for tourism facility construction. In 2007, a secret ballot was taken, in which the citizens of Bale voted that the Municipality should not sell its land, but rather grant long-term lease on it, thus establishing a precedent in Croatia. In this way, the company Mon Perin Ltd. obtained by tender lease rights over a plot of land which currently holds two camping sites, and soon the construction permit should be granted. Mon Perin should thus become a proper tourism company owned by the local population having their own interest in the company in the form of shares (Rajko et al., 2008).

The citizens are even more likely to support the project because they expect to profit from it. In this way, synergy among all local community actors has been achieved. Under the deed of establishment, when entering into contracts with investors in tourism facilities, the Municipality of Bale can become co-owner of the latter, or grant concessions in exchange for new shares and rights to Mon Perin's dividend. The Municipality has obtained decisive influence over the operation of Mon Perin and the development of its tourism sites by enshrining the right to veto in the deed. In other words, regardless of the number of shares owned, the Municipality has a seat on the Supervisory Board. By exercising its veto right, the Municipality can not only protect the interests of the local community, but can also influence employment policy and thus give young people from Bale – schooled with Municipal scholarships – the opportunity to manage their own economic resources.

## **Cerot**

In 2010. Tinjan municipality has been sent notice to all residents of the municipality in a manner to establish a company whose owners will be local residents. This kind of a joint company should become the basis of the development of strategic projects in the area of the municipality. 32 local individuals were interested in that kind of a project and had been applied for establishment of a company along with Tinjan municipality. Therefore, company CEROT d.o.o. (Center for Tinjan municipality development) has been established with the share capital of 20.000 kuna.

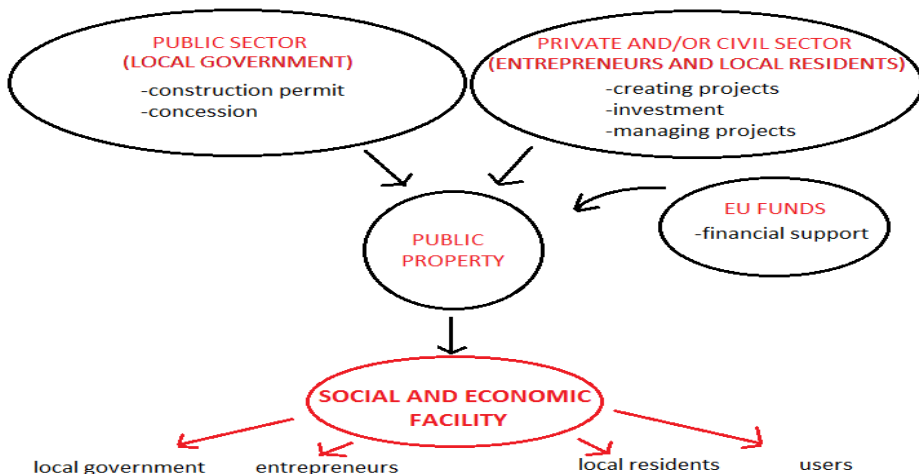
After two successful recapitalization of the company, CEROT has a registered capital of 450,000 kuna and has been engaged in the development of various strategic projects of municipality interest in the field of rural tourism and agriculture with an emphasis on the provision of tourist accommodation in the former old school in place called Jakovici. For the purpose of mutual cooperation, Tinjan municipality in 2012. had given construction permit to CEROT d.o.o. company for reconstruction of an old school in Jakovici – CEROT d.o.o. company had to reconstruct the old school with their own capital and idea for a tourism purposes.

In the same year, CEROT d.o.o. prepared the necessary documentation for the reconstruction of building, applied project to IPARD, measure 302 and gets non-refundable 556.000 kuna. Along with non-refundable funds, own capital, capital support of the municipality and commercial credit, old school has been reconstructed in villa with four stars which has pool and has been putted in tourist offer two years later. Currently, annual occupancy of facility is 20 weeks on average, facility has the highest number of nights per year in the municipality (approximately 2.000) while generates positive financial results. Thanks to the project, one young person from the municipality has been employed and has been established cooperation with two local entrepreneurs.

## 5. Proposal of an Optimal Public-Private Partnership Model in Function of Local Government Development

Given that every PPP project is specific with regard to the asset being built, the number of actors participating in the partnership, the value of investment, the terms of payment, etc., it is very hard to obtain an "optimal" analytical-economic model of PPP applicable for the purpose of development local municipalities. In other words, at present there can be no single model of public-private partnership because of the very specific nature of each individual project executed in this way. However, a general model serving as a guideline for the representatives of the public and the private sector should they decide to take joint ventures by means of a PPP, can nevertheless be suggested. Such a model should take into account the experience gathered so far in the area of design, construction and management by means of a public private partnership arrangement, the legal provisions that govern the implementation of such projects, the opinions of the public and the private sector about their respective needs and expectations from the project and the cost-effectiveness of the individual project, lacking which the project is pointless. After studying the available literature and practice in the world and Croatia and on the basis of given Mon Perin and Cerot case studies, the authors suggest an institutional model of public-private partnership which has not yet been envisaged as the most appropriate model for the purpose of development local municipalities by Croatian legislation (Figure 1).

*Figure 1 Proposed model of the public-private partnership*



Source: Made by authors

Proposed model of public-private partnership, such as represented on the figure above, is a "guide of sorts for the development of local municipalities by means of a public-private partnership" and has been developed in three steps. In *first step*, public and private sector take joint actions while they have different primary goals which they want to achieve by this specific partnership. Public sector wants to put unused public property in a social and economic function while private sector is profit-driven. In *second step*, public sector gives unused public property for a limited period while public-private partnership must finance the reconstruction or construction of the public property. The proposed model envisages the establishment of a company on the basis of institutional public-private partnership and the implementation of a projects. Therefore, company owned by the private and public / civil sector gets public property for the purpose of using it, permission for construction / renovation with the purpose of putting it in economic and social function, develops and implements a project and provides financial support. Company in the public-private partnership, as a legal entity, can apply to the European funds to help her finance it a certain part of the investment. In *third step*, the proposed model of public-private partnership should result in satisfaction of all stakeholders (local

government, entrepreneurs, local residents, etc.). Putting facility in function means opening new jobs which benefits local citizens, municipality and finally government. Also, benefits will have users of the products/services because new entity will provide market with new products/services. By this model public sector can put public objects in the function that it can't realize by itself due to the lack of financial possibilities and inefficient project leadership.

## 6. Final Considerations

The greatest contribution of this paper is proposed model of joint cooperation among public sector (local governments) and private/civil sector which represent local companies and citizens who are willing to be financially involved in local projects and investments. Model has been designed in a way that local government cede some of its real-estate which aren't in any function to the private and/or civil sector which will by their private initiatives, entrepreneurial ideas, capital and non-refundable EU funds put them in socio-economic function. These projects need to be profitable in a manner to provide sustainability. According to the case studies and available literature authors proposed model which has been already implemented and that can be also implemented in similar situations. Theoretically, model shows relation and cooperation in which public sector provides public property and construction permits while private sector conceives project, invest and manages the project. The result of their joint cooperation should be the object putted in social and economic function which will satisfy needs of all stakeholders (local government, entrepreneurs, local residents, users, etc.). The ultimate goal of establishing the above model of public-private partnerships would be its long-term sustainability. Proposed model is universal and can be applied in different service and manufacturing industries.

## REFERENCES

- Andrews, R., Entwistle, T. (2010): **Does Cross-Sectoral Partnership Deliver? An Empirical Exploration of Public Service Effectiveness, Efficiency, and Equity**, Journal of Public Administration Research and Theory, Vol. 20, No. 3, pp. 679-701.
- Aralica, Z., Račić, D., Šišinački, J. (2007): **Projektno financiranje infrastrukture**, EIZ, Zagreb.
- Barković, I., Širić, M. (2010): **Uloga i značaj javno - privatnog partnerstva u Republici Hrvatskoj: izabrani primjeri**, Ekonomski vjesnik, Vo. 23, No. 1, pp. 184-201.
- Boardman, E.A., Greve, C., Godge, G. A. (2015): **Comparative Analyses of Infrastructure Public-Private Partnerships**, Journal of Comparative Policy Analysis, Vol. 17, No. 5, pp. 441-447.
- Brol, M. (2014): **Efficiency Problem of the Public-private Partnerships from the Perspective of Agency Theory**, Scientific Papers of the University in Wroclaw, Vol. 332, pp. 21-33.
- Car-Pušić, D. (2014): **PPP Model Opportunities, Limitations and Risks in Croatian Public Project Financing**, Procedia - Social and Behavioral Sciences, Vol. 119, pp. 663-671.
- Collin, S. O., (1998): **A survey of Public Private Partnership in Sweden**, Public Productivity & Management Review, Vol. 21, No. 1.

Lovrinčević, M., Kružić, D., Obuljen, D. (2015): **Recession and Public Private Partnership: Evidence from Croatia**, X Simposium of Business and Science, November 5-6, Belgrade, Serbia.

Manuals on Public-Private Partnership Model Preparation and Implementation 1-9, (2012). Zagreb: Agency for Public-Private Partnership.

Persoli, M. (2010): **Javno-privatno partnerstvo u funkciji zadovoljavanja javnih potreba**, Croatian Public Administration, Vol. 10, No. 4, pp. 1019–1044.

Rajko, M. (2008): **Javno-privatno partnerstvo u funkciji razvoja javne infrastrukture**, Master thesis, Rijeka, Faculty of Economics.

Rajko, M., Krajnović, A., Tomčić, Z. (2008): **Public-private Partnership for the Development of Tourism in Rural Areas**, International Conference of the School of Economics and Business in Sarajevo (ICES 2008) "Traditional Challenges of EU Integration and Globalisation": Conference Proceedings / Šain, Željko (ur.). - Sarajevo: School of Economics and Business.

Sabry, I. L. (2015): **Good governance, institutions and performance of public private partnerships**, International Journal of Public Sector Management, Vol. 28, No. 7, pp. 566 – 582.

Stainback J. (2006): **10 Reasons why developers should enter into public/private partnerships**, NBIZ, Houston. <http://investatlanta.com/wp-content/uploads/10-Reasons-Why-Developers-Should-Enter-Into-Public-Private-Partnerships.pdf> (accessed 29 May 2016).

Udovičić, A., Mečev, D. (2011): **Javno-privatno partnerstvo: primjenjivost iskustava na Republiku Hrvatsku**, Praktični menadžment, Vol. 2, No. 3, pp. 40-50.

Vasilescu, I., Ciobotaru, V., Japurica, O., Tache, F. (2010): **Assessment methods for gaining efficiency within the financing process of Public-Private Partnerships**, Management, Vol. 13, No. 2, pp. 391-406.

Xuequng, Z. (2005): **Financial Viability Analysis and Capital Structure Optimisation in Privatized Public Infrastructure Projects**, Journal of Construction Engineering and Management, Vol. 131, No. 6, pp. 656-668.





**Ekologija  
- zaštita prirode  
i okoliša**

**Ecology &  
Environmental  
Protection**

**Prof. Nada Denona Bogović, PhD, Full Professor**

Faculty of Economics, Rijeka  
51000 Rijeka, Ivana Filipovića 4  
nada@efri.hr

**Prof. Saša Drezgić, PhD, Professor**

Faculty of Economics, Rijeka  
51000 Rijeka, Ivana Filipovića 4  
sdrezgic@efri.hr

**Saša Čegar, MBA, Assistant**

Faculty of Economics, Rijeka  
51000 Rijeka, Ivana Filipovića 4  
051/ 353 111  
scegar@efri.hr

## **GREEN ECONOMY AS A DEVELOPMENT MODEL OF EASTERN CROATIA <sup>1</sup>**

### **ZELENA EKONOMIJA KAO RAZVOJNI MODEL ISTOČNE HRVATSKE**

#### **ABSTRACT**

*Previous studies of economic trends and developmental features of Eastern Croatia undoubtedly point to a continuous gap between the counties of this region in relation to the Croatian average. The results of the conducted analyses indicate an increase in developmental divergence, i.e. regional disparities, and extremely unfavourable population trends are identified as the key factor of negative economic developments. Aiming to create a successful development model, starting from the existing comparative advantages and specificities of Eastern Croatia, the authors analysed possible effects of implementation of the so-called „green economy“ as an appropriate model of economic development based on the principles of sustainable development. Starting from the theoretical and methodological framework of green economy, the paper analyses necessary preconditions for its implementation in Eastern Croatia, and provides arguments for transformation of the current economic structure of the region towards strategic selection and implementation of development policies in line with the principles of green economy.*

**Key words:** Eastern Croatia, development model, green economy

#### **SAŽETAK**

*Dosadašnja istraživanja gospodarskih kretanja i razvojnih obilježja Istočne Hrvatske nedvojbeno ukazuju na kontinuirano zaostajanje svih pripadajućih županija ove regije u odnosu na prosjek Republike Hrvatske. Nalazi provedenih analiza argumentiraju povećanje razvojne divergencije, odnosno regionalne nejednakosti, a kao ključan činitelj negativnih gospodarskih kretanja detektiraju se izrazito nepovoljna demografska kretanja. U potrazi za kreiranjem uspješnog razvojnog koncepta, a polazeći od postojećih komparativnih prednosti i specifičnosti Istočne Hrvatske, autori su istražili moguće efekte implementacije tzv. „zelene ekonomije“ kao primjerenog*

---

<sup>1</sup> This work has been supported by the University of Rijeka under the project number 13.02.1.2.04. and 13.02.1.2.02.



*modela gospodarskog razvitka, temeljenog na principima održivog razvoja. Polazeći od teorijsko-metodološkog okvira zelene ekonomije, u radu su analizirane nužne pretpostavke za njenu implementaciju na području Istočne Hrvatske, te su podastri argumenti transformacije sadašnje gospodarske strukture ove regije u pravcu strateškog opredjeljenja i provođenja razvojne politike prema načelima zelene ekonomije.*

**Ključne riječi:** *Istočna Hrvatska, održivi razvoj, zelena ekonomija*

## **1. Introduction**

The area of Eastern Croatia occupies about 22% of the national territory inhabited by about 19% of the Croatian population. According to the territorial structure, this region comprises five counties: the Osijek-Baranja County, Vukovar-Srijem County, Brod-Posavina County, Požega-Slavonia County, and Virovitica-Podravina County. According to relevant macroeconomic indicators and structural features, all of the counties record significant developmental lag in relation to the Croatian average, and regional disparities have been increasing since 2008. This paper is a follow-up of the authors' research on economic characteristics and development perspective of Eastern Croatia and is based on the obtained findings (Denona Bogović & Čegar, 2015). The cited analysis has undoubtedly proven that Eastern Croatia is one of the underdeveloped regions and that regional divergence has been increasing. There are many reasons for development problems and underdevelopment of regions, and among the most important ones are surely depopulation processes which can, among other things, have a very negative impact on the ability of economic revitalisation, revival of entrepreneurship, and thus on attracting investment to specific areas. The authors have identified negative demographic trends, which are significantly below the Croatian average, as one of the key factors of unfavourable economic situation in Eastern Croatia. Namely, depopulation in Eastern Croatia is a consequence of insufficient economic activity, but in the long run, it also becomes the key limiting factor of development, i.e. cause of further stagnation and underdevelopment.

How to revive Eastern Croatia, how to create preconditions for new employment and alleviate negative migration trends? Creating possible levers of a successful development concept of this Croatian region which, in the national framework, represents an invaluable development potential, is a great research challenge. Starting from the existing comparative advantages, human and natural resources, the paper proposes implementation of green economy as a modern development concept, adequate for the specificities of Eastern Croatia.

The second chapter of the paper presents the concept of green economy as a developmental paradigm, but also a concrete development policy at all levels, including local. Growing number of countries, regardless of their development level, try to design and implement the concept and instruments of green economy in their economic, social and ecological development plans and sustainable development strategies. These theoretical and applicable insights can be a valuable experience for the area of Eastern Croatia, especially in terms of creation of new jobs, reduction of unemployment and alleviation of negative demographic trends. Therefore, the third chapter of the paper proposes and arguments the implementation of green economy as a particularly adequate development pattern for the entire region of Eastern Croatia. The focus of the analysis are the necessary preconditions for the introduction of this development model and possible positive effects on the entire economy.

## **2. The Concept and Content of Green Economy**

Firstly, it should be noted that, at international level, there is no single, unambiguous definition of green economy accepted by all institutions. For example, UNEP (2011) has defined the green

economy as “one that results in improved human well- being and social equity, while significantly reducing environmental risks and ecological scarcities. It is low carbon, resource efficient, and socially inclusive”. According to the same source, in a green economy, growth in income and employment are driven by public and private investments that reduce carbon emissions and pollution, enhance energy and resource efficiency, and prevent the loss of biodiversity and ecosystem services. Except for this definition, cited in many papers and documents, there are also other approaches to the concept of green economy, which the authors elaborate on below.

The term **green economy** was mentioned for the first time in 1989 in the Report of the London Environmental Economics Centre<sup>2</sup>. The document called *Blueprint for a Green Economy* was made by a group of the then leading ecological economists (Pearce, Markandya, & Barbier, 1989) for the needs of the British government in the field of environment management, i.e. creating appropriate environmental policies. The authors later published *Blueprint 2 - Greening the world economy* (Pearce et al., 1991) and *Blueprint 3 - Measuring Sustainable Development* (Pearce, et al., 1994) The findings provided in all these reports are based on the research of implementation of environmental policy in the period of several historical decades. In fact, the content of the first *Blueprint* deals the least with green economy as a development concept and a strategic tool, but rather places it very clearly into a theoretical framework of environmental economy and sustainable development. In this report, the authors problematise all of the basic determinants of environmental economics, starting from sustainability principle as a precondition for long-term economic development, relationship between economy and the environment, and environment evaluation methods. They point to the importance of maintaining an adequate level of stocks of natural capital, and of designing and implementing an anticipative environmental policy.

The findings of the *Blueprint for a Green Economy* indicate that green economy, in terms of concrete policy and strategic development tools, at all levels, including local, originate from the concept of environmental economics and sustainable development paradigm. Environmental economics is a multidisciplinary science which attempts to explain the relationship between man and the environment in the past, and predict the trends of these relationships in the future. It uses tools and insights, not only from ecology and economics, but also other sciences such as anthropology, sociology, philosophy in the process. The concept of environmental economics is important for the economy from the aspect of production and consumption possibilities in the circumstances of limited natural environment and its assimilative capacity. Based on the findings in the study *The Limits of Growth* (Meadows et al., 1972), representatives of environmental economics<sup>3</sup> believe that unlimited linear growth of production and consumption is impossible (as implied by neoclassical growth models), when there are real, biophysical limits of the planet we inhabit. Although elements of sustainable development can be found in classic papers by Ricardo, Mill, and Malthus, this development concept obtained its distinctive framework in the 1970s, when it was proposed as a possible answer to rising global inequalities between economic activities and state of the environment. Later, specifically in 1987, in the today famous *Brundtland Report*<sup>4</sup>, the term sustainable development was defined for the first time. According to the cited source, sustainable development denotes forming and implementation of such patterns of present economic activities which will not lead to reduction of stocks of natural capital and quality of life of future generations. There are also numerous other definitions of sustainable development, although all of them are based on the holistic approach to development strategies and policies derived from these strategies. This means that, in the process of designing, e.g., local development strategies of specific

---

<sup>2</sup> London Environmental Economics Centre (LEEC) is a joint venture, established in 1988, by the International Institute for Environment and Development (IIED) and the Department of Economics of University College London (UCL).

<sup>3</sup> The most important representatives of environmental economics are Robert Constanza, Herman E. Daly, Robert Goodland. For more about the postulates of environmental economics cf. **Constanza et al. (1997)**.

<sup>4</sup> The report *Our Common Future*, called after the Norwegian Prime Minister Gro Harlem Brundtland who presided over the UN Commission for the Environment.

locations should be taken into account along with economic, social and environmental development dimensions.

After they had positioned green economy in the theoretical framework of environmental economics and sustainable development in the first *Blueprint*, David Pearce and his team focused on global environmental issues and threats in *Blueprint 2*. Starting from common goods as a conceptual model, they proved the importance of implementation of green economy as a strategic development tool on the examples of global warming, degradation of the environment in underdeveloped countries, destruction of tropical rainforests, etc.. *Blueprint 3* is based on the findings of the first two reports, but aims to examine the possibilities of sustainable development in the UK. For this purpose, the research offers a set of measurable environmental indicators for individual environmental constituents as well as economic operations characteristic for the implementation of green economy: agriculture, recycling and waste management, management of forest and water resources, etc.

After the implementation of green economy as a new development pattern and environmental policy instrument by Pearce and his team, the interest in this field has been growing again since 2008. The reasons are surely the extent and consequences of the global financial crisis. Namely, due to growing recession trends, UNEP advocated the so-called “green stimulus packages“, and special areas were defined in which it is possible to launch green economy through large public investments (UNDESA, 2012). This idea motivated governments from several countries to introduce „green incentives“ as an effective instrument of economic and environmental policy aimed at increasing employment, reducing poverty and harmful emissions, and boosting economic recovery<sup>5</sup>. After 2008, there have been initiatives, primarily by UNEP, to stimulate green economy, such as the Global Green New Deal (GGND) from 2009. This initiative, coordinated by UNEP, was one of the nine Joint Crisis Initiatives undertaken by the Secretary-General of the UN and his Chief Executives Board in response to the 2008 economic and financial crisis (cf. UNEP, 2009). A UNEP report from 2011 explains in great detail the reasons for the necessary transfer from the so-called „brown economy“ model to „green economy“, especially in less developed countries, which can also be applied to underdeveloped regions within national economies. The necessary preconditions for such a transition are defined in the Report, such as, for example, change of the institutional framework or environmental instruments. Transition towards green economy is especially focused on and applicable in sectors based on availability of natural capital such as agriculture, fishery, forest and water management, followed by activities from sectors which are traditionally characterised by brown economy, such as transport, energy industry, and processing industry, because by transferring to the green economy model, they can achieve significant energy savings and increase energy and resource efficiency.

After more than 25 years since the beginning of development of the concept of green economy, we can conclude that, despite different definitions of the term (cf. Table 1), it has been recognised as a powerful contemporary tool of long-term sustainable development planning. Considering its characteristics, the green economy model vs. brown economy model is an attempt to overcome growing inequalities between economic activities and state of the environment which are a consequence of traditional (i.e. brown) way of production and consumption. It is based on the use of fossil energy sources, high level of pollution, large quantities of waste, and decreasing efficiency in terms of possibilities of new employment, reduction of income inequalities, and poverty.

---

<sup>5</sup> It is not only about underdeveloped and less developed countries in the world, but also the most developed countries, such as European, which also successfully develop and implement the green economy model. See, e.g. [http://www.gencat.cat/mediamb/publicacions/monografies/green\\_economy\\_best\\_practices\\_eng.pdf](http://www.gencat.cat/mediamb/publicacions/monografies/green_economy_best_practices_eng.pdf)  
<http://www.wri.org/blog/2010/09/germanys-green-economy-strategy>  
<http://stateofgreen.com/en/sectors/intelligent-energy>

**Table 1** Definitions of the Term „Green Economy“

1.	One that results in improved human well- being and social equity, while significantly reducing environmental risks and ecological scarcities. It is low carbon, resource efficient, and socially inclusive. In a green economy, growth in income and employment should be driven by public and private investments that reduce carbon emissions and pollution, enhance energy and resource efficiency, and prevent the loss of biodiversity and ecosystem services (UNEP, 2011).
2.	A system of economic activities related to the production, distribution and consumption of goods and services that result in improved human well- being over the long term, while not exposing future generations to significant environmental risks or ecological scarcities. (UNEP, 2009).
3.	An economy that results in improved human well- being and reduced inequalities, while not exposing future generations to significant environmental risks and ecological scarcities. It seeks to bring long- term societal benefits to short- term activities aimed at mitigating environmental risks. A green economy is an enabling component of the overarching goal of sustainable development (UNCTAD, 2011).
4.	Green economy is “a resilient economy that provides a better quality of life for all within the ecological limits of the planet.” (Green Economy Coalition, 2011)
5.	Green Economy” is described as an economy in which economic growth and environmental responsibility work together in a mutually reinforcing fashion while supporting progress on social development. (International Chamber of Commerce, 2011).
6.	The Green Economy is not a state but a process of Transformation and a constant dynamic progression. The Green Economy does away with the systemic distortions and disfunctionalities of the current mainstream economy and results in human well- being and equitable access to opportunity for all people, while safeguarding environmental and economic integrity in order to remain within the planet’s finite carrying capacity. The Economy cannot be Green without being Equitable (Danish 92 Group, 2012).
7.	The green economy involves largely new economic activities and must provide an important entry- point for broad- based black economic empowerment, addressing the needs of women and youth entrepreneurs and offering opportunities for enterprises in the social economy (Government of South Africa, 2011).
8.	Green economy can be seen as a lens for focusing on and seizing opportunities to advance economic and environmental goals simultaneously. (Rio+20 Objectives and Themes of the Conference - UNCSA, 2011)

Source: UNDESA (2012): *A guidebook to the Green Economy, Division for Sustainable Development*, [http://www.uncsd2012.org/content/documents/528Green%20Economy%20Guidebook\\_100912\\_FINAL.pdf](http://www.uncsd2012.org/content/documents/528Green%20Economy%20Guidebook_100912_FINAL.pdf), (accessed 15 february 2016)

These inequalities are present at all levels within individual national economies; global as well as regional and local. Today's concept of green economy enables the most developed countries to gain new competitive advantages, like, for example, the Republic of Germany and Scandinavian countries (cf. Buehler et al., 2011). The model of green economy as a powerful strategic tool can be especially important and applicable from the aspect of creating new jobs and reducing unemployment in the Republic of Croatia, especially Eastern Slavonia.

### 3. Green Economy – A Strategic Choice of Eastern Croatia?

Development problems of Eastern Croatia primarily relate to a relatively high rate and dynamics of unemployment growth, low efficiency of human capital, and halved investments in comparison with the Croatian average. Also, negative demographic trends, especially migration trends, have become critical, with a tendency to become the key factor of the „enchanted cycle of poverty“ (Denona Bogović & Čegar, 2015). Revitalisation of this region, which is very important for Croatia, is only

possible by creating a development concept that would enable optimal use of all the production factors and turn the existing comparative advantages into competitive strength. From that point of view, implementation of the green economy concept is imposed as a desirable development model of Eastern Croatia. The arguments in favour of such an approach arise primarily from the existing economic structure in which primary sector industries have a dominant role, and economic activities of the processing sector are based on outputs of the primary sector (cf. Table 2).

**Table 2** *Economic Structure of Eastern Croatia in 2013 and 2014 (GVA and Employment per Economic Activities, NCEA 2007)*

Economic Activities	GVA (%)	Employment (%)
A	14,3	6,9
B,C,D,E	21,4	24,7
F	6,5	6,6
G,H,I	14,1	18,3
J	2,7	1,5
K	3,1	2,0
L	11,9	0,2
M,N	4,4	4,7
O,P,Q	19,3	33,1
R,S,T,U	2,3	2,0
TOTAL	100	100

*Source: Authors' calculation based on CBS's statistical reports Pr. 9.2.4. (dated 27.03.2015) and Pr. 12.1.3. (dated 15.02.2016); for employment the data refer to year 2014 and for GVA the data refer to year 2013*

It is evident from the theoretical and methodological green economy framework that such a development model, as well as strategic tools, are especially focused on and appropriate for secondary sector industries in which it is possible to significantly increase resource and energy efficiency. According to its structural characteristics, the economy of Eastern Croatia represents a real paradigm for development based on green economy principles. A segment of the tertiary sector in this region, especially tourism, also has all the necessary characteristics favourable for the implementation of the proposed concept.

#### **4. The Necessary Preconditions for the Implementation of the Green Economy Concept in Eastern Croatia**

Regarding state-level institutional framework, there are no major obstacles to the implementation of the green economy concept in Eastern Croatia. Namely, indications of such an approach are already included in Sustainable Development Strategy from 2009 (particularly in the Strategic Guidelines for Green Economy Development – „Green Development of Croatia“ 2011) by the Croatian government. This strategic document introduces gradual remodelling and new focus of development policy, investments and consumption on sectors such as cleaner technologies, energy efficiency, green construction, renewable energy, green transport, water economy, waste management, sustainable agriculture and forestry, and sustainable tourism.

However, successful creation and implementation of the green economy concept for Eastern Croatia greatly depends on development strategies and policies at lower management levels, specifically at the levels of the respective counties, towns and municipalities. Local economic development (LED) is a strong instrument of regional policy directing the development of local communities based on the so-called „bottom-up management model“. Modern management of local development, as a specific concept and strategic tool, opens great opportunities for towns, municipalities and counties

of Eastern Croatia for creating conditions for strong development of green economy in accordance with the existing institutional framework, aiming at long-term sustainable development. This is why drafting of quality strategic documents, i.e. strategic planning in line with modern LED methodology, is of great importance for the area of Eastern Croatia. The importance of involving the private sector in the process of LED planning should be especially pointed out, because one of the objectives of such planning is ensuring favourable conditions for development and business activities of entrepreneurs, i.e. creating preconditions for the opening of new, „green“ jobs and revival of the local economy.

Naturally, strengthening of human and administrative capacities is one of the key preconditions for the transition to a model of green economy. Some of the reasons are source planning and ensuring financial resources necessary for the „greening“ of the economy of this region. Taking into consideration many years of weakening of budgetary capacity, possible sources of financing are to be found primarily through projects and EU funds, but also through different models of public-private partnerships. At the level of Eastern Croatia as a specific region, it is also necessary to initiate a change in the instruments of environmental policy directed towards a conceptual approach, as well as successful implementation and practice, especially from developed European countries.

## **5. Possible Effects of Implementation of the Green Economy Concept on Eastern Croatia**

Adoption of the concept of green economy as a model of future development of Eastern Croatia opens opportunities for simultaneous solving of all of the above-mentioned development problems of this region, that towns and municipalities in this part of continental Croatia have been facing for years. Thus, the key to their economic and demographic revitalisation surely lies in quality and under-utilised natural resources which are abundant in Eastern Croatia, like, for example, fertile uncultivated land, water resources, renewable energy sources, and preserved natural heritage. A specificity of Eastern Croatia is that its development agents are not facing challenging problems of excessive environmental pollution or degradation of resources while maintaining positive economic trends, but quite the opposite, the question how to sustainably develop the entire regional economy with available natural capital. Strategically, preserved natural resources and good state of natural components of the environment are surely one of the key development potentials of Eastern Croatia, given that the activities that are oriented to maximising economic benefits of ecological services of a healthy environment, while minimising, or completely eliminating environmental externalities of production and consumption processes, make the backbone of economic development based on green economy principles.

An important step in initiating green economy development is the application of BAT (Best Available Technology) in the sectors that directly depend or affect the state, availability, and allocation of resources in the environment. This primarily refers to activities related to management and utilisation of natural goods and resources, waste management, energy production, construction, agricultural and industrial production, tourism, and transport. The implementation of BAT involves great infrastructure and capital investment and investment in human resources, which has proven to be the crucial obstacle to their more intensive utilisation. However, it is important to point out that, despite the fact that local and county budget funds are insufficient for serious funding of this type of investment projects, and the fact that regional enterprises do not have sufficient investment capacity for ecological modernisation and business expansion, through the inclusion of the concept of green economy in all strategic documents and plans relevant for development of regional economy of Eastern Croatia, it is possible to encourage new investment cycles in green technologies. Namely, given that green economy is one of the most important strategic determinants of economic development of the European Union (cf. EC, 2010), the concept of green economy is integrated in all EU policies, which is especially evident through the use of ensured funding from European structural and cohesion funds available to the Republic of Croatia in the EU financial framework

2014-2020 (cf. Ministry of Regional Development and EU Funds). Therefore, in the process of developing local and county economic strategies and plans, it is important to define the objectives and measures in line with development priorities of the European Union in terms of transformation of European national and regional economies towards green economy, because it will thus enable green activity development agents to apply their projects for European grants and realise co-financing.

Taking into account significant competitive advantages of Eastern Croatia for the development of the agricultural and associated sectors, investment in sustainable agricultural production and energy-efficient and environmentally-friendly technologies in sectors that support or use agricultural outputs will result in positive multiplicative economic effects that could become long-term drivers of diversification and growth of the entire economy of Eastern Croatia. For example, development of green agriculture will lead to a better and more efficient use of biologically productive land, and thus to an increase in the yield of crops and reduction of the need for production inputs (e.g. energy, fertiliser, pesticides), which will contribute to the growth of profitability and productivity of agricultural activities and, consequently, to strengthening of production capacity and competitiveness of the agricultural sector of Eastern Croatia. This will directly stimulate the development of complementary activities related to transportation, storage, trade and processing of green agricultural products and reduce the deficit of foreign trade of agri-food products. Through the increase in the volume of production of high-quality local green agricultural products, opportunities will be created for the development of production chains of autochthonous food products of high added value which, among other things, can contribute to building gastronomic and cultural identity and recognition of Eastern Croatia in the international market, and, consequently, the development of different forms of selective tourism. Of course, most importantly, in the process of development of green economy and diversification of regional economic structure, many new jobs will be opened, which will reduce unemployment, stop negative demographic and migration trends, increase purchasing power of the local population and encourage private consumption throughout the year, which can ultimately induce new upward conjuncture in the economy of Eastern Croatia.

## REFERENCES

- Buehler, R. et al. (2011): *How Germany Became Europe's Green Leader: A Look at Four Decades of Sustainable Policymaking*, Solutions for a sustainable and desirable future, Vol. 2, Issue 5, <http://www.thesolutionsjournal.com/node/981>, (accessed 11 february 2016)
- Costanza et al. (1997): *An Introduction to Ecological Economics*, CRC Press, LLC
- Denona Bogović, N., Čegar, S. (2015): *Economic Characteristics and Developmental Prospects of East Croatia*, in: Fourth International Scientific Symposium Economy of Eastern Croatia – Vision and Growth, Mašek Tonković, A. (Ed.), Sveučilište Josipa Jurja Strossmayera u Osijeku, Ekonomski fakultet u Osijeku, Osijek, 21st– 23rd May 2015, pp. 62-70
- EC (2010): *EUROPA 2020 - Strategija za pametan, održiv i uključiv rast*, <http://public.mzos.hr/fgs.axd?id=22781>, (accessed 25 february 2016)
- Green Economy Best Practices in Catalonia*, Ministry of Territory and Sustainability, Government of Catalonia, June 2012, [http://www.gencat.cat/mediamb/publicacions/monografies/green\\_economy\\_best\\_practices\\_eng.pdf](http://www.gencat.cat/mediamb/publicacions/monografies/green_economy_best_practices_eng.pdf), (accessed 10 february 2016)
- Hanson, S. (2010): *Germany's Green Economy Strategy*, World Resources Institute, <http://www.wri.org/blog/2010/09/germanys-green-economy-strategy>, (accessed 10 february 2016)
- Meadows, D.H. et al. (1972). *The Limits to Growth*, Universe Books, New York

MZOPUG (2011): *Strateške odrednice za razvoj zelenog gospodarstva – zeleni razvoj Hrvatske*, <https://vlada.gov.hr/UserDocsImages/Sjednice/Arhiva/117153.%20-%201.3.pdf> (accessed 12 february 2016)

*Ministarstvo regionalnoga razvoja i fondova Europske unije - MRRFEU*, <https://razvoj.gov.hr/>, (accessed 25 february 2016)

Pearce, D.W. (1992): *Green Economics, Environmental Values* 1, no. 1, pp. 3-13, <http://www.environmentandsociety.org/node/5454>, (accessed 8 february 2016)

Pearce, D.W., Markandya, A., Barbier, E. (1989): *Blueprint for a Green Economy*, Earthscan, London

Pearce, D.W et al. (1991): *Blueprint 2: Greening the World Economy*, Earthscan, London

Pearce, D.W et al. (1994): *Blueprint 3: Measuring sustainable development*, Earthscan, London

*State of Green*, Denmark, <http://stateofgreen.com/en/sectors/intelligent-energy>, (accessed 10 february 2016)

*Statistical report 9.2.4. (27.03.2015.)*, Croatian Bureau of Statistics, [http://www.dzs.hr/Hrv\\_Eng/publication/2014/09-02-04\\_01\\_2014.htm](http://www.dzs.hr/Hrv_Eng/publication/2014/09-02-04_01_2014.htm), (accessed 7 february 2016)

*Statistical report 12.1.3. (15.02.2016.)*, Croatian Bureau of Statistics, [http://www.dzs.hr/Hrv\\_Eng/publication/2016/12-01-03\\_01\\_2016.htm](http://www.dzs.hr/Hrv_Eng/publication/2016/12-01-03_01_2016.htm), (accessed 17 february 2016)

*Strategija održivog razvitka Republike Hrvatske, 2009.* (NN br. 110/07)

UNDESA (2012): *A guidebook to the Green Economy*, Division for Sustainable Development, [http://www.uncsd2012.org/content/documents/528Green%20Economy%20Guidebook\\_100912\\_FINAL.pdf](http://www.uncsd2012.org/content/documents/528Green%20Economy%20Guidebook_100912_FINAL.pdf), (accessed 15 february 2016)

UNEP (2009): *Global Green New Deal – An Update for the G20 Pittsburgh Summit*, [http://www.unep.org/pdf/G20\\_policy\\_brief\\_Final.pdf](http://www.unep.org/pdf/G20_policy_brief_Final.pdf), (accessed 4 february 2016)

UNEP (2014): *A Guidance Manual for Green Economy Policy Assessment*, [http://www.unep.org/greeneconomy/Portals/88/documents/GEI%20Highlights/UNEP%20Assessment%20GE%20Policymaking\\_for%20web.pdf](http://www.unep.org/greeneconomy/Portals/88/documents/GEI%20Highlights/UNEP%20Assessment%20GE%20Policymaking_for%20web.pdf), (accessed 20 february 2016)

UNEP (2011): *Towards a green economy: Pathways to Sustainable Development and Poverty Eradication - A Synthesis for Policy Makers*, [http://www.unep.org/greeneconomy/Portals/88/documents/get/GER\\_synthesis\\_en.pdf](http://www.unep.org/greeneconomy/Portals/88/documents/get/GER_synthesis_en.pdf), (accessed 5 february 2016)



**Ph.D. Dario Maradin, Postdoctoral Research Assistant**

Faculty of Economics, University of Rijeka  
Ivana Filipovića 4, 51000 Rijeka, Croatia  
Phone: 00 385 51 355 184 Fax: 00 385 51 212 268  
E-mail address: dmaradin@efri.hr

**Ph.D. Ljerka Cerović, Full Professor**

Faculty of Economics, University of Rijeka  
Ivana Filipovića 4, 51000 Rijeka, Croatia  
Phone: 00 385 51 355 147 Fax: 00 385 51 212 268  
E-mail address: cerovic@efri.hr

**Ph.D. Bojana Olgic Draženović, Assistant Professor**

Faculty of Economics, University of Rijeka  
Ivana Filipovića 4, 51000 Rijeka, Croatia  
Phone: 00 385 51 355 128 Fax: 00 385 51 212 268  
E-mail address: bolgic@inet.hr

**WILLINGNESS TO PAY FOR “GREEN” ELECTRICITY**

**SPREMNOST NA PLAĆANJE “ZELENE” ELEKTRIČNE ENERGIJE**

**ABSTRACT**

*On the liberalised power supply market, with an ever growing development and utilization of renewable energy sources, there has been introduced a “differentiated” product, or better, the so called “green” electricity, which is either totally or partially recovered from “green resources”, that is, from renewables. Power supply companies provide consumers the opportunity to purchase “green” electricity against a higher price, in order to level off both higher production costs from the renewables and boost their further development. Based on their free will, consumers may chose to be supplied with “green” energy among any utility company and being charged an additional amount for such products, thus contributing to the further use and the implementation of renewable energy sources in the power supply sector, as well as to consumer satisfaction.*

*This paper aims to establish the features contributing to the consumer willingness to additionally pay for electricity obtained from renewables. Hence, it highlights the reasons behind the buyers' or households' readiness to using “green” electricity, which are found mainly in environmental concerns, altruistic attitudes and personal preferences. It should also be mentioned that consumers prefer electricity deriving from renewable resources, even when they know little about it. Higher education, environmental organisation affiliation and higher income levels are related to the greater willingness to additionally pay for a cleaner energy, since the latter is estimated to curb pollution induced by fossil fuels. Consumers may chose among the most convenient type of renewable resource in the output of “green” power as well as the amount of additional money to pay for the purchase of such energy. Although this paper presents the up-to-date situation in the research carried out by a number of authors, it may be regarded as the basis for further empiric research on the phenomenon of willingness to pay for “green” power in the Republic of Croatia.*

**Key words:** *willingness to pay, renewable energy sources, “green” electricity, consumers, preferences*

## SAŽETAK

*Na liberaliziranom elektroenergetskom tržištu, sa sve većim razvojem i korištenjem obnovljivih izvora energije, pojavljuje se „diferencirani“ proizvod, tzv. „zelena“ električna energija isporučena u cijelosti ili djelomično iz „zelenih“ resursa, odnosno obnovljivih izvora energije. U opskrbi električne energije, poduzeća pružaju mogućnost prodaje „zelene“ električne energije, te se uobičajeno naplaćuje viša cijena za „zelenu“ električnu energiju kako bi se uravnotežio nastali veći trošak proizvodnje iz obnovljivih energetske resursa te potaknuo njihov daljnji razvoj. Temeljeno na dobrovoljnoj osnovi, potrošačima se ostavlja mogućnost odabira opskrbjivača i spremnost na dodatno plaćanje takvog proizvoda, čime se doprinosi iskorištavanju i primjeni obnovljivih izvora energije u elektroenergetskom sektoru, te zadovoljstvu potrošača.*

*Svrha istraživanja ovog rada je utvrditi motivirajuće čimbenike koji dovode do spremnosti na dodatno plaćanje električne energije koja se dobiva iz obnovljivih izvora energije. Pri tome se u radu naglašava da su individualni kupci, odnosno kućanstva voljni upotrebljavati „zelenu“ električnu energiju prvenstveno zbog ekoloških interesa, altruističkih stavova ili osobnih preferencija. Također se ističe da kupci favoriziraju električnu energiju iz obnovljivih izvora, iako o njoj znaju vrlo malo. Viša razina obrazovanja, pripadnost ekološkoj organizaciji i viši osobni dohodak povećavaju spremnost na plaćanje za ekološku električnu energiju, odnosno smanjenje onečišćenja u okoliš upotrebom fosilnih energetske resursa. Vrsta obnovljivog izvora iz kojeg se dobiva „zelena“ električna energija ili razina viška cijene po kojoj se „zelena“ električna energija kupuje također mogu implicirati različite razine korisnosti za potrošače. Iako se u radu prezentiraju dosadašnja/prethodna istraživanja brojnih autora, ono može predstavljati temelj za empirijsko istraživanje o fenomenu spremnosti na plaćanje „zelene“ električne energije u Republici Hrvatskoj.*

**Ključne riječi:** spremnost na plaćanje, obnovljivi izvori energije, „zelena“ električna energija, potrošači, preferencije

### 1. Introduction

Within the framework of structural reforms, the electricity supply sector is facing comprehensive changes, in the form of overall market reorganisation and technical and technological operation of the public utility. Primarily, under the influence of deregulation, the electricity distribution market has opened to all undertakings operating in such sector, thus setting foot for competition on the electricity market. Competition in the electricity supply market is regarded as a triggering factor for market efficiency and electricity supply sustainability. On the deregulated electricity supply market, with a greater development and utilisation of renewable energy sources, a “differentiated” product is emerging, the so-called “green” electricity, deriving either totally, or in part, from “green” resources, i.e. from renewable energy sources.

Alongside the conventional (fossil) energy sources, renewable energy sources are becoming a significant energy-generation means put in place to meet the needs for electricity. Renewable energy sources provide additional electricity generation, thus contributing, in view of numerous multiplicative effects, to economic development and to stimulating general competitiveness in the energy management sector. Environmental sustainability shall be seen as one of the main reasons for an ever larger utilisation of renewable energy sources, because, when it comes to power generation, renewables have no share in pollution, nor in greenhouse gas emissions. Moreover, they can contribute to reducing the deployment of non-renewable fossil energy sources, thus paving the way to their further utilisation.

For nearly a century, customers were obliged to purchase electricity from a single supplier, because there had been the monopoly of a single vertically integrated utility company on the

market in charge with power generation, transmission and retailing. As a result, customers now lack any experience in choosing an electric utility provider capable of producing a renewable energy product. The electricity supply industry will eventually allow their retail customers to choose the most fitting energy supplier and to decide whether they wish to purchase a clean product. However, very few electricity consumers know where their power comes from or understand the environmental impacts of producing “green” power (Mayer et al., 1997).

Individual customers, i.e. households are willing to use “green” electricity for a variety of reasons, such as environmental concerns, altruistic attitudes, personal inclination, et al. It is therefore possible to claim a positive willingness to pay more for “green” electricity, for a number of reasons. This paper aims to establish the features contributing to the consumers' willingness to pay more for electricity obtained from renewables.

## **2. Key elements of renewable energy sources in the generation of “green” electricity**

“Green” electricity is electricity generated from renewable energy sources and it is distinguished from conventionally generated electricity by its non-existent or relatively low pollution emissions (Kotchen, Moore, 2007). The aforementioned may be confirmed by the fact that renewable energy sources involved in electricity generation participate with zero or near-to-zero emissions of greenhouse gases and other air pollutants (United Nations Development Programme, 2000). In theory, the generation of “green” electricity from renewable energy sources may be infinite because (theoretically speaking) the latter are any energy resources which naturally restore themselves at a rate that is higher or nearly-as-high-as the consumption of such energy resources, or a long-lasting resource abundantly available in nature (van Vliet, 2012). Presumably, renewable energy sources are unlimited, that is, even if they are being consumed, their quantities are only temporarily being deployed, i.e. they can be restored or replenished (Labudović et al., 2002). Hence, sources of renewable energy include solar, wind, hydro-power, biomass (biologically-derived material), geothermal (Earth's thermal energy) and marine energy encompassing wave, tidal and marine current power (Armstrong, Hamrin, 2000). The use of renewable energy sources in electricity generation imply environmental safeguarding, that is, it contributes to environmental sustainability, given that the primary use of renewable energy sources foresees zero pollution. This feature stands out as one of the main advantages in promoting generation and utilisation of “green” electricity.

An essential shortcoming for a larger use of renewable energy sources is the relatively high production cost of “green” electricity. There is a general higher cost for the construction of “green” energy plants, than for fossil or conventional ones, partly because renewables are capital-intensive, requiring hefty initial expenditures on equipment, in exchange for lower operating costs over time (Mayer et al., 1997). The latter is true, in particular, for power plants using marine power, since their technology is highly expensive<sup>1</sup>. The construction of photovoltaic systems also comes at a high cost owing to high technology costs and the complexity to manufacture solar panels.

Depending on the factors involved in the price determination of electricity generation from either renewable or non-renewable sources, different estimates can be drawn. For example, should electricity generation costs of power plants be included in the carbon dioxide (CO<sub>2</sub>) emission trading price, the latter being the harmful emissions produced as a by-product of electricity generation, the competitiveness of renewable energy sources would be improved over the fossil-fuel, conventional, power plants (cf. Tarjanne, Kivistö, 2008). Regardless of the afore stated, the literature on this subject indicate that “green” electricity is marketed at prices ranging from 10% to 30% above the price of conventional electricity (Kotchen and Moore, 2007). Therefore, taking into

---

<sup>1</sup> Due to expensive technology, specific location requirements and other factors, the ratio of maritime energy used by renewable resources in world's generation of green electricity is minimal.

account the current technology involved and the technical and technological progress, it is common to charge a premium for “green” electricity, in order to compensate for higher production costs and encourage further research in renewable energy sources.

The investment in renewable energy technologies and the utilisation of the renewable energy sources from nature, entail a number of economic outcomes. Furthermore, there is a multiplier effect in spurring the economy and the development of, not only, the energy sector, but also, of any supporting activities related to such industry. Supposedly, the greatest benefit from adopting “green” energy, i.e. renewables, is innovation, which is likely to promote technical and technological changes (Fankhauser, Sehleier, Stern, 2008). In the long run, technological change, innovation and the development of renewable energy sources create new jobs and increase the demand for labour. Furthermore, “green” electricity may bring numerous management advantages to utilities supplying electricity to both legal entities and physical persons, and it can affect other companies as well, which choose to use the afore mentioned input, thus, presumably, improving customer satisfaction (Pérez-Plaza, Linares, 2009). “Green” energy can help electric utilities improve their impact on the environment, increase the company's goodwill, differentiate from competitors, focus on specialised market niches, retain existing and acquire new environmentally aware consumers, et al. Companies willing to pay more for “green” electricity used in their own production processes openly demonstrate not only their interests in a sound environment, but also in community development – for the benefit of the whole society through the use of clean energy (Fouquet, 1998). Clean energy can help achieving corporate and institutional goals in connection with social responsibility of businesses.

Distinct policy instruments promoting the development of renewable energy sources are being applied by public authorities. Such instruments aim at providing support for a particular segment of renewables, however, at the same time, their implementation scope may be limited. For example, subsidies/taxes, as fiscal instruments to reduce costs/increase the prices of “green” electricity generation/consumption, provide public authorities with special opportunities concerning renewable energy management, which does not necessarily have to be cost-effective. The following instrument, the *renewable energy fund*, also carries a financial dimension in supporting “green” energy development, whether in research and development sector, fund transfer or market-based applications. The “green” *certificate scheme* represents the obligation for consumers to use/purchase (a portion of) “green” electricity, the generation of which is proved by the certification of “green” production. The advantage of the implementation of this instrument is the fostering of competition, whereas the lack of it may be found in high-cost renewable technologies. A widely spread investment programme in renewable energy sources is represented by *feed-in tariffs* ensuring a premium payment for eligible “green” electricity production. On the one hand, feed-in tariffs can ensure long-term return for investors, where certain power plants/power utilities on the market are being favoured, but, on the other hand, such instrument does not necessarily have to meet the long-term goal of using a greater share of renewables in “green” electricity output. Nonetheless, these motivating schemes have led to a surge in the use of renewables in certain EU Member States. The instrument mobilising consumer's interest and support for a greater use of renewable energy sources is the *voluntary “green” electricity scheme*. Its key feature relies on the voluntary purchase basis, ensuring a flexible and simple implementation. The advantages of such scheme are securing a pool of financial means from interested consumers, less state involvement, reduced spending from the already restricted public authority funds and the opportunity for participation from both the private and the public sectors. The absence of “green” energy voluntary purchase implies the lack of guarantee measures ensuring quantity goals for the utilisation of renewable energy sources, thus failing to be cost-effective, and the effectiveness of which depends on electricity prices and consumers' access to information and awareness (Gan, Eskeland, Kolshus, 2007). Other factors of this scheme, as well as the interests of consumers in purchasing “green” electricity, shall be analysed in the subsequent part of the paper.

### **3. Voluntary purchase of “green” electricity**

Consumers' voluntary-based decision to choose the most fitting “green” electricity supplier and to purchase a “green” product foster utilisation of renewable energy sources in the electricity-generation sector. Ultimately, with the choices they make, consumers have the power to trigger change in the role of electric utilities, by shifting the latter's focus on alternative energy resources, thus to have leverage on the community to act in line with their (ethical) principles.

In addition, consumers are inclined to pay more in order to be able to use “green” electricity. Such premium on the standard price of “green” electricity is the result of investments made in renewable energy sources, in their further improvement and development as well as in exploring the capacities of renewable resources in electricity generation structure, which leads to higher energy independence, lower combustion of fossil fuels and their harmful impact on the environment.

The willingness to pay technique uses survey methods to estimate the price that people are willing to pay for a given good (Bigerna, Polinori, 2011). Given this paper's topic of research, the willingness to pay is used to evaluate environmental benefits and consumers' preferences in financial terms. Most “green” consumers want to purchase well-defined products that have a clear role in tackling environmental issues. Consumers want to feel good about the purchase, therefore, they want to see a positive impact of their actions. At the same time, consumers also tend to seek “green” products that are convenient, relatively inexpensive, and that perform as well or better than the alternative (Mayer et al., 1997). “green” electricity, although having public good characteristics<sup>2</sup>, shows a certain attractiveness to consumers, which are willing to pay a premium over normal electricity prices (Pérez-Plaza, Linares, 2009). The willingness to pay depends on altruistic attitudes and preferences of consumers; their environmental concern, i.e. lower levels of exploitation and combustion of fossil fuel energy sources; the socio-demographic characteristics of consumers, such as age, education and income; the extent of the premium for “green” electricity, and the portfolio of “green” electricity products; a package of a diversified services/products for the purchase of “green” electricity, among which it may include non-energy services/products; the type of renewable energy source used to produce “green” electricity; et al. In addition, it is worth noting that there is a positive relationship between customer satisfaction and the willingness to pay, since satisfied customers are willing to pay more for “green” products or services. In fact, when customers are clearly satisfied, they perceive a high outcome of an exchange and therefore are willing to pay more (i.e. more than less satisfied customers) because this still results in a beneficial ratio of outcome to money spent. Similarly, when satisfaction is low, customers perceive a low payment as adequate to establish a fair exchange (Homburg, Koschate, Hoyer, 2005).

Finally, it should be noted that, in reality there is no obligation of ensuring and delivering “green” electricity to customers, even when they have decided to voluntarily and additionally pay for it.

### **4. Empirical review of the willingness to pay for “green” electricity**

A number of studies have been carried out and extensive pieces of information have been collected in order to estimate the preferences of customers regarding their willingness to pay a premium for “green” electricity.

---

<sup>2</sup> Depending on the instrument promoting the development of renewables, there are slight differences of green electricity as a public good. A voluntary contribution mechanism, whereby households simply donate money to finance the capacity for generating green electricity, is consistent with theory on private provision of a pure public good. Otherwise, green tariff mechanism, whereby households must pay a fixed tariff per kilowatt-hour of consumption, is consistent with theory on private provision of an impure public good (Kotchen, Moore, 2007).

Batley et al. (2001) investigate the potential advantages and disadvantages of “green” power products in the United Kingdom and, analyse the willingness to pay for “green” electricity. Results showed that 34.86% (N=667) of respondents were willing to pay more for electricity generated from renewable sources. Also, results indicate that the willingness to pay increase with social status, awareness of energy efficiency and income, implying that the higher the individual's income the more probable they will pay extra for renewably generated electricity. It is concluded that the “green” citizen must continue to co-exist with the “green” power purchaser if the UK is to make any significant improvement in the contribution of renewable energy to electricity demand.

In their study Roe et al. (2001) argue that a higher personal income, higher education levels and the affiliation to an environmental organisation increase the willingness to pay for environmentally-friendly electricity and the reduction of pollution. Such attitudes, in line with the research carried out by Rowlands, Scott, Parker (2003) identify the combination of the following common features among customers willing to pay a premium for “green” electricity: a drive for environmental issues, more open-minded attitudes, altruism, education, age (younger customers show more willingness to pay), income, involvement in the community or environmental organisations.

According to Zarnikau (2003), the respondents are willing to pay more money for investments in renewable energy sources and energy efficiency, where 50% of respondents are willing to pay 1 extra dollar for “green” electricity and more energy efficiency, 40% are likely to pay 5 or 6 dollars more, while 19% and 12% respectively are willing to pay 12 dollars more for clean electricity and a more efficient electricity production. Another study (Wüstenhagen, Markard, Truffer, 2003) points out that 20% of respondents across Germany, the United Kingdom and Sweden were willing to pay a 15% price increase for “green” electricity, whereas almost none of the respondents would pay a 40% price rise (it is also explained that the willingness to pay more for “green” electricity is much higher in Switzerland, due to its higher household income).

Through the contingent valuation method, Nomura and Akai (2004) explore the willingness of Japanese households to pay more, in the form of a flat monthly surcharge (500, 1000 and 2000 yen) for renewable energy, i.e. photovoltaic and wind power. Customers are willing to pay a premium which is estimated at about 2000 yen (around 16 EUR with the exchange rate 123 yen/EUR) per month per household. They also indicate that people willing to pay more want renewable energy technologies to be used in the future.

Borchers, Duke and Parsons (2007) denote that the versatility of renewable energy sources may prove to be useful for consumers, under a number of aspects. Preference and higher willingness to pay is given to solar energy over wind power and, in general, over other renewable energy sources, while biomass and methane are regarded the least desirable energy resources, the willingness to pay level of which stands at the lowest points.

An experimental investigation of individual preferences regarding the consumption of “green” electricity against an alternative method of payment for the promotion of renewably energy have been presented by Menges and Traub, (2009). The study explores the extent of free-riding in the survey, the effects that different payment methods have on the participants’ willingness to pay, and crowding-out effects of private willingness to pay due to public promotion of “green” electricity. Under the public choice treatments, participants were willing to pay far higher contributions to “green” electricity than under the individual choice treatments. On the one hand, this observation highlights the large extent of free-riding in the private provision of the public good of “environmental quality”. On the other hand, it also demonstrates that many households are willing to contribute voluntarily even if free-riding is possible. A general explanation for this result is altruism.

In the Republic of Korea, also by means of the contingent valuation method, Kim et al. (2012) examine the willingness of Korean households to additionally pay for electricity generated by wind, photovoltaic and hydropower. Empirical results show that, although the willingness to pay was highest for wind power and lowest for hydropower, the differences in the willingness to pay among renewable sources were statistically insignificant. This shows that Korean consumers chose a combination of renewably-generated electricity against the lowest price increase. The average willingness to pay for all three energy types was 1562.7 KRW (Korean Won) (around 1.19 EUR with the exchange rate 1313 KRW/EUR) per month per household, which was approximately 3.7% of the average monthly electricity bill in 2010. This amount represents only 58.2% of the Korean government's budget allocations to the new and renewable energy dissemination program in 2010. Thus, results imply that the promotion of the renewable energy dissemination program may be difficult only with the willingness to pay for "green" electricity generated from renewable sources.

Without further analyses of case studies and research results, it is clear that during the period under scrutiny, of almost fifteen years, regardless of the time/place of research, or the "green" energy source in question, the presented data point at either a higher or a lower willingness to pay of any sample group, where willingness to pay shrinks as the "green" energy premium rises, and is (among other features) directly associated to the respondents' age, income and education levels.

## 5. Conclusion

This paper analyses both in theory and empirically the willingness to pay more for "green" electricity generated from renewable energy sources based on the data previously gathered. The willingness to pay represents one of the policy instruments to encourage the development and a higher scale utilisation of renewables, and can be defined as the highest amount of money a consumer is willing to spend for a product or service. Thus, the willingness to pay may be determined as the value in money that a person assigns to the consumption or usage of a certain good or service.

Empirical research from a number of authors highlight a proactive voluntary willingness to pay for "green" electricity, where such willingness to pay is based on a number of following features not listed in order of importance: climate change mitigation, environmental safeguard, altruistic attitudes, personal preferences, socio-demographic characteristics of consumers, type of renewables offered, the premium at which the "green" electricity is sold, etc.

Undoubtedly, through willingness to pay - this particular policy "financial release" instrument, both supply and demand of "green" electricity enable any interested parties, producers and distributors, on the one hand, and consumers, on the other, to take part in furthering clean renewable energy sources, and, consequently, in safeguarding the environment and in reducing harmful emission output into the atmosphere, thus putting into practice the model of an acceptable financial satisfaction (producers) and sacrifice (consumers) of market participants.

Finally, this paper opens the way for new research, and may be regarded as the basis for further empiric research on the occurrence of willingness to pay for "green" electricity in the Republic of Croatia.

## REFERENCES

Armstrong, A. J., Hamrin, J. (2000): *The Renewable Energy Policy Manual*, United States Export Council for Renewable Energy, Washington, USA

- Batley, S. L., Colbourne, D., Fleming, P. D., Urwin, P. (2001): *Citizen versus consumer: challenges in the UK green power market*, Energy Policy, Vol. 29, pp. 479-487.
- Bigerna, S., Polinori, P. (2011): *Italian consumers' willingness to pay for renewable energy sources*, Munich Personal RePEc Archive, No. 34408.
- Borchers, A.M., Duke, J.M., Parsons, G.R. (2007): *Does willingness to pay for green energy differ by source?*, Energy Policy, Vol. 35, No. 6, pp. 3327-3334.
- Fankhauser, S., Sehllleier, F., Stern, N. (2008): *Climate change, innovation and jobs*, Climate Policy, Vol. 8, No. 4, pp. 421-429.
- Fouquet, R. (1998): *The United Kingdom demand for renewable electricity in a liberalised market*, Energy Policy, Vol. 26, No. 4, pp. 281-293.
- Gan, L., Eskeland, G. S., Kolshus, H. H. (2007): *Green electricity market development: Lessons from Europe and the US*, Vol. 35, No. 1, pp. 144-155.
- Homburg, C., Koschate, N., Hoyer, W. (2005): *Do Satisfied Customers Really Pay More? A Study of the Relationship Between Customer Satisfaction and Willingness to Pay*, Journal of Marketing, Vol. 69, pp. 84-96.
- Kim, J., Park, J., Kim, H., Heo, E. (2012): *Assessment of Korean customers' willingness to pay with RPS*, Renewable and Sustainable Energy Reviews, Vol. 16, pp. 695-703.
- Kotchen, M. J., Moore, M. R. (2007): *Private provision of environmental public goods: Household participation in green-electricity programs*, Journal of Environmental Economics and Management, Vol. 53, pp. 1-16.
- Labudović, B., et al. (2002): *Obnovljivi izvori energije*, Energetika marketing, Zagreb
- Mayer et al. (1997): *Promoting Renewable Energy in a Market Environment: A Community-Based Approach for Aggregating Green Demand*. Land and Water Fund of the Rockies, U.S. Department of Energy Report Boulder, Colorado
- Menges, R., Traub, S. (2009): *Who Should Pay the Bill for Promoting Green Electricity? An Experimental Study on Consumer Preferences*, International Journal of Environment and Pollution, Vol. 39, No. 1-2, pp. 44-60.
- Nomura, N., Akai, M. (2004): *Willingness to pay for green electricity in Japan as estimated through contingent valuation method*. Applied Energy, Vol. 78, pp. 453-463.
- Pérez-Plaza, M., Linares, P. (2009): *Strategic Decisions For Green Electricity Marketing: Learning From Past Experiences*, in: Wang, H., ed.: Web-Based Green Products Life Cycle Management Systems: Reverse Supply Chain Utilization, IGI Global, pp. 250-266.
- Roe, B., Teisl, M. F., Levy, A., Russell, M. (2001): *US consumers' willingness to pay for green electricity*, Energy Policy, Vol. 29, No. 11, pp. 917-925.
- Rowlands, I. H., Scott, D., Parker, P. (2003): *Consumers and green electricity: profiling potential purchasers*, Business Strategy and the Environment, Vol. 12, No. 1, pp. 36-48.



Tarjanne, R., Kivistö, A. (2008): *Comparison of electricity generation costs*. Lappeenranta University of Technology, Faculty of Technology, Department of Energy and Environmental Technology, Research report EN A-56

United Nations Development Programme (2000): *World energy assessment: Energy and the challenge of sustainability*

van Vliet, B. (2012): *Renewable Resources*, in Southerton, D., ed.: Encyclopedia of Consumer Culture, SAGE Publications, Inc., Thousand Oaks, California, USA, pp. 1212-1214

Wüstenhagen, R., Markard, J., Truffer, B. (2003): *Diffusion of green power products in Switzerland*. Energy Policy, Vol. 31, No. 7, pp. 621-632.

Zarnikau, J. (2003): *Consumer demand for 'green power' and energy efficiency*. Energy Policy, Vol. 31, No. 15, pp. 1661-1672.

**Professor Mane Medić, PhD**

Faculty of Economics in Osijek, J.J. Strossmayer University of Osijek

Postal Address: 31 000

Email: mmedic@efos.hr

**Danijel Čorak, univ.spec.oec., PhD student**

Faculty of Economics in Osijek, J.J. Strossmayer University of Osijek

Postal Address: 31 000

Phone: +385 98 180 37 20

E-mail address: corak.danijel@gmail.com

**THE POSSIBILITY OF USING RENEWABLE ENERGY SOURCES IN  
EASTERN CROATIA WITH AN EMPHASIS ON SOLAR ENERGY AND  
WATER ENERGY**

**MOGUĆNOSTI KORIŠTENJA OBNOVLJIVIH IZVORA ENERGIJE U  
ISTOČNOJ HRVATSKOJ S NAGLASKOM NA SOLARNE IZVORE  
ENERGIJE I ENERGIJU VODA**

**ABSTRACT**

*This paper will be discussed topics possibility of using and implementation of renewable energy sources in eastern Croatia, with an emphasis on solar energy and water energy.*

*As an example of successfully implemented in this paper will use the example of the city of Pleternica, the little town of eastern Croatian whose goal in the near future to become self-sustainable and sufficient in terms of energy production, initially for their own facilities and institutions, and later further expansion. Presentation of preliminary designs sustainability and financing plan projects, will provide the framework and the proposal to other cities, the environment and institutions throughout the region and will present statistical data and comparisons with other regions and countries in Europe.*

*With statistical and factual situation will be given suggestions and potential solutions for implementation in other regions.*

*Emphasis and one of the conclusions of the research in this paper is that the eastern Croatian as region has a very high potential in terms of renewable energy and that the good examples, quality planning, preparation and implementation can achieve a lot in terms of growth of economic indicators and thus and achieving economic viability thereof, eastern Croatian region could and should serve as an example to others.*

*Some of the scientific and research methods used in this paper are the inductive and deductive methods, methods of analysis and synthesis, description method, comparative method, historical method, abstraction and concretization, methods of observation, classification method, statistical method, generalization and specialization, mathematical method, surveying and interviewing other.*

**Key words:** *Implementation, renewable sources, solar energy, water energy, self- sustainable, growth of economic indicators*

**SAŽETAK**

*U ovom radu će biti obrađena tema mogućnosti korištenja i implementacije obnovljivih izvora energije u istočnoj Hrvatskoj s naglaskom na solarne izvore energije i energiju vode.*

*Kao uspješno implementiran primjer u ovom radu koristiti će se primjer grada Pleternice, malog gradića istočne Hrvatske čiji je cilj u bližoj budućnosti postati samoodrživ i dostatan u smislu proizvodnje energije, u početku za vlastite objekte i ustanove, a kasnije i šire. Iznošenjem idejnih rješenja samoodrživosti i plana financiranja projekata, dati će se okvir i prijedlog za druge gradove, sredine i ustanove u čitavoj regiji te će se prezentirati statistički podaci i usporedbe sa drugim regijama, te državama u Europi.*

*Sa statističkog i činjeničnog stanja će se dati prijedlozi i potencijalna rješenja za implementaciju u druge sredine.*

*Naglasak i jedan od zaključaka istraživanja u ovom radu je taj, da istočna Hrvatska kao regija raspolaže vrlo velikim potencijalima u smislu obnovljive energije te da se dobrim primjerima, kvalitetnim planiranjem, pripremom i implementacijom može postići vrlo puno u smislu rasta gospodarskih pokazatelja, a samim time i ostvarenjem ekonomske održivosti istoga, regija istočne Hrvatske bi mogla i trebala poslužiti kao primjer drugima.*

*Neke od znanstvenih i istraživačkih metoda korištenih u ovom radu su induktivna i deduktivna metoda, metoda analize i sinteze, metoda deskripcije, komparativna metoda, povijesna metoda, metoda apstrakcije i konkretizacije, metoda opažanja, metoda klasifikacije, statistička metoda, metoda generalizacije i specijalizacije, matematička metoda, metoda anketiranja i intervjuiranja i druge.*

***Ključne riječi:*** *Implementacija, obnovljivi izvori, solarna energija, energija vode, samoodrživ, rast ekonomskih pokazatelja*

## **1. Introduction**

Renewable energy sources are all the environmental resources that are unlimited restore (energy solar, wind, biomass, ocean waves, energy flows and geothermal).

Renewable energy sources are most often associated with environmental protection. The sudden economic growth and industrial development relied primarily on the growing use of fossil fuels (coal, oil, gas and more), and those resources are still predominant in the contemporary society. However, the use of fossil fuels and their processing have extremely negative consequences for the environment, since it causes the release of substances that disrupt the natural balance (Air pollution, water and soil). At the regional level, there is the appearance of acid rain and smog, which harm the health of people. The inevitable product of burning fossil fuels is carbon dioxide CO<sub>2</sub>. The increase in its concentration in the atmosphere is a real global threat, and to climate change.

Carbon dioxide is a greenhouse gas, which in effect means that its large concentration of heat soak up the sun, and there will be a rise in temperature (greenhouse effect), ie, there will be global warming.

Melting glaciers, rising sea-levels, more frequent droughts, floods and other extreme events indicate that the global climate is changing, and this is the moment unknown how much is left up to the moment when the changes will have a significant impact on all life on Earth. The changes are all the more frightening because it is not possible to accurately estimate what will happen in the future if the average temperature of the Earth continues to be increased or whether the changes will be irreversible. According to the above, it is clear that it is necessary to replace the use of fossil fuels to other energy sources, which use sustainable. Renewable energy sources are used always, only recently highlighted their use, especially in the production of electricity and heat. Renewables can also have negative consequences for the environment, especially large hydroelectric power, since it hinders the ecological balance of river basins. Still, their deliberate use of renewable sources bring multiple benefits to the environment - reduce the emissions of local pollutants and greenhouse gases. While the EU strategic documents defining the share of renewable energy sources should by

2020 to raise to 20% with a range of measures to encourage private investment in facilities to convert renewable energy into usable energy, in the Republic of Croatia is the production of electricity from renewable sources accounted for only 5.8% of total production (excluding large hydropower) - (source: Energy in Croatia, 2013, MINGO). This fact is even more worrying given that the strategic development documents was defined that Croatia will by 2010 5.8% of electricity derived from renewable sources. Government Regulation (NN 8/2011) is planned to raise the share of electricity from plants using renewable energy sources to 13.6% by the end of 2020. In order to achieve that, in the coming years it is necessary to intensify all activities related to the use of renewable sources.

## **2. Small hydropower plant – Pleternica**

Small hydropower Pleternica is an investment project of building small hydroelectric power 140 kW, which is located in the construction area of the City of Pleternica on the river Orljava. The plant work and produced electricity is distributed to the network of HEP. The construction of small hydropower plants in Pleternica fits into the national energy program of building small hydro power plants (HPP Program) which is a fundamental objective of enabling all the conditions for increased construction of small hydro power plants in the Republic of Croatia, and within national energy programs in energy efficiency and renewable energy. The program, among others, in the cadastre of small hydropower plants as suitable locations in Pleternica on the Orljava. The purpose of the construction of small hydro electricity production utilization existing water resources - water power falls waterfall on the existing concrete dam on river Orljava. The overall objective of the project is to contribute to increasing budget revenues of the City of Pleternica, on the basis of utilization of available resources of the river Orljave. Small hydropower Požega continuation of the investment project of construction of small hydropower plants owned by local government units and represents an innovative project that Pleternica wants vigorously promote renewable energy as a source of revenue for local and regional government. The production of electricity from renewable energy sources is one of the priorities of the Republic Croatia.

„Through this type of production, the state contributes to its (energy) independence, promotes energy supply (which increases the standard of living of the population), and significantly reducing CO2 emissions in the environment. The investment is worth a total of: 3.300.000,00 kn (VAT incl.) and relates to the construction of small hydro (construction and engineering, electrical equipment and MRU). Construction of small hydropower plants in Pleternica will be financed from the budget of the City Pleternica, grants (EU funds, ministries) or the credit indebtedness by HBOR.“ (Predinvesticijska studija mHE Pleternica (2013), PcP d.o.o., Službeni dokument, p. 2.)

### **2.1. Project information and evaluation of development opportunities of investor**

The goal of the project, in general, is to contribute to sustainable production and consumption of energy. The project will impact on increasing the share of electricity produced from renewable energy sources, reducing carbon emissions, but also increases the energy independence of the region, but also the entire community. The result of the project: The plant hydroelectric power 140 kWh as a dam power plant on the Orljava in Pleternica. Reasons initiatives for the realization of this project lies in the fact that the natural decline river Orljava in Pleternica optimal for the construction of hydroelectric power plants and the use of water resources for the purpose of energy production, which has been proven and research relevant institutions. The business environment for the project Small hydropower plants are favorable, given that pressure on energy self-sufficiency in the future will be even greater. Energy becomes extremely essential, and will plant a SHP Požega and in the next 20 years have the option of a stable transmission to the electricity network.

All the electricity produced by eligible producers of electricity from plants using OIEK, and whose Encouraged, buys market operator (HROTE - Croatian Energy Market Operator Ltd.), and takes the supplier in a manner and under conditions prescribed by Government Decree RH.

„By acquiring the status of eligible electricity producer and the conclusion of the Agreement on the purchase of electricity on the basis of the present legislation, at least 14 years secured a safe purchase of electricity. It is expected that they will continue to purchase and later in (at least) the same conditions, considering that after this period the Republic of Croatia to be under pressure to increase the share of electricity from renewable sources, as well as to reduce emissions CO<sub>2</sub>. According to forecasts, the dependence of RH on energy imports will rise from the current 55% to 70% in 2030. Therefore, this project is just in the direction of liberation from these pressures.“ (Predinvesticijska studija mHE Pleternica (2013), PcP d.o.o., Službeni dokument, p. 3.)

## 2.2. Market analysis of sale and purchase and assessment of achievement revenue

*Table 1 Market analysis of sale and purchase and assessment of achievement revenue, Predinvesticijska studija mHE Pleternica (2013)*

	Opis
Koje tržišne potrebe poduzeće nastoji zadovoljiti/zadovoljava?	Investitor zadovoljava tržišnu potrebu za energijom, i to specifično za energijom iz obnovljivih izvora energije. Rastom svjetskog gospodarstva, potreba za energijom eksponencijalno raste.
Koji proizvod/usluga zadovoljava navedene potrebe?	Proizvod je: električna energija, predana u distribucijsku mrežu HEP-a, putem izgrađene trafostanice
Tko kupuje proizvod?	HROTE otkupljuje električnu energiju od investitora, koji ima status povlaštenog proizvođača. Status povlaštenog proizvođača se stječe rješenjem Hrvatske energetske regulatorne agencije (HERA).
Zašto potrošači kupuju?	RH se obvezala na približavanje razini potrošnje električne energije iz obnovljivih izvora (OIE) kako je to već sada u EU. Kako se trenutno iz OIE u RH koristi tek nešto više od 1,5%, interes je cijele zajednice da se ovaj udio poveća. RH je uvoznik električne energije, i mora nužno raditi na povećanju svoje energetske neovisnosti i samoodrživosti.
Tko donosi odluku o kupnji?	Odluka se donosi na političkoj i nacionalnoj razini, kroz definiranje politika i odnosa Vlade RH prema korištenju OIE. Otkup električne energije je definirana člankom 26. stavak 6. Zakona o energiji.
Gdje potrošači kupuju?	HEP preuzima električnu energiju putem postojeće trafostanice
Kako ćete se oglašavati i promovirati vaš proizvod/uslugu?	Oglašavanje i promocija za samu prodaju nije potrebna. Promocija u smislu podizanja svijesti potrošača o obnovljivim izvorima energije bit će provedena kroz besplatne priloge u tiskanim i elektronskim medijima, povodom pokretanja i dovršenja investicije.

*Source: Poduzetnički centar Pleternica d.o.o., Official document*

## 2.3. Conclusions about small hydropower plant in Pleternica

Previous parameters show that the construction of small hydropower plants in Pleternica economic profitable. Due to the low operating costs and average revenue that can be achieved on an annual level (projection based on the flows of the river Orjava the previous ten years period) return on investment is expected in the 6th year (for more detailed information you need to make a detailed projection of the balance sheet, cash flow, profit and loss account). In addition it is necessary to consider that the project can be co-financed and non-refundable means the pre-accession, structural and cohesion funds which shortens the payback period. In accordance with safety regulations this project lies in the fact that the Treaty purchase of electricity concluded for a period of min. 14 years and guarantees the purchase price regardless of market changes and insensitive to the rate of inflation. Taking into account that the life of the equipment min. 30 years shows that the assessment of success the project is extremely high and the investor proposes the realization of this project.

### **3. The project - use of renewable energy sources - Construction of solar power plant at the library and reading room in Pleternica**

#### **3.1. Project Description**

The building of newly constructed Library is located in the center of Pleternica and as a modern and representative space and will be an attractive tourist destination where visitors will have the opportunity to visit the new space that carries the centuries-old tradition of the existence of librarianship in Pleternica. The new library offers the possibility of active involvement of local people in the work of the library, connect their own activities library with other cities in the field of Croatian, but also through EU projects with the rest of Europe. The previous century-old tradition can be continued only if the conditions are met for the development of libraries, because in this way it creates new future of the site, and create conditions for the functioning of a century in the new space.

During the planning and construction of this new facility specifically takes care of all the elements that will make the building quality, modern and functional in the future, and the only thing missing is the installation of solar panels to buildings has made certain energy savings that are desperately needed in one so large house which, as such, requires a huge energy costs. Solar power plants are the future of energy production and therefore it is decided to install solar panels on the roof of newly constructed Library (29,9kW). The roof of the building has an ideal surface for the installation of photovoltaic systems, as this is an area that is directly exposed to the sun and light. So, in this way we will have a modern facility that will primarily be energy efficient. Solar systems are increasingly popular due to rising energy costs and insufficient utilization of free solar energy. There are a number of advantages associated with the use of solar energy. With regard to energy costs perhaps the most important advantage in saving money that occurs installing solar panels and using renewable energy sources. Of solar energy, light energy is used. Solar energy by using photo-cell is converted into electricity. Own power source ensures energy independence, extremely low maintenance, increases the value of the property. Government subsidies when installing reduce investment costs. Solar energy is one of the cleanest and most widely used source of energy and does not adversely affect the life and environment. Using solar energy helps to reduce global warming.

Today's technology is highly developed, and every day more and more developed, and it is positive that the conversion of solar energy into other forms of energy do not create any additional materials that are harmful. It is also important to note that the last fifteen years a prominent tendency in the number of sunny months of the year, so more than six months is extremely sunny which encourages the use of solar systems. Given the above, it is evident that the use of renewable energy sources, in the case of solar energy, need for energy efficiency, but also to protect the environment. It is also important to improve efficiency in the work of the cultural institutions which will primarily serve the benefit of the community, because it is a place where every day together people of all ages who want to learn and improve their knowledge and activated in cultural development, both their own and Development his city and surrounding areas. Each building must meet the essential requirements of building industry puts in front of her, which includes a number of energy and environmental regulations. For this reason, guided by the principles of sustainable and economically viable construction we consider indispensable the installation of solar panels on the Library roof. Since it is a small local government that from their own resources can not fully realize this important project, in order to secure the financial resources necessary was to include other entities such as the Fund for Environmental Protection and Energy Efficiency to project well done in accordance with the rules of the profession.

### 3.2. Project goals

Permanent care to increase energy efficiency is one of the fundamental components of sustainable development. Organized and systematic care of energy efficiency carried out in Croatia under the National Energy Program and numerous recommendations and advice from countries that have much more experience in this field and have made significant steps towards the use of renewable energy sources. Croatia joining the European Union needs to harmonize its legislation with European and ensure the fulfillment of the key requirements in the field of efficient use of energy and to introduce regulations with more stringent criteria in the field of thermal protection and energy use.

With the expected increase in the price of energy and the development of awareness of energy saving and environmental protection, increase energy efficiency should become standard practice in the maintenance and rehabilitation of existing facilities, as well as in the construction of new and to install solar panels should become the practice for all new buildings. Installing solar panels on a newly constructed Library for the main goal is the exploitation of solar energy for electricity generation, and will thus achieve cost savings and reduce environmental pollution. Investing in well-being and a better future for all citizens as well as a modern energy policy in order to protect the environment clearly indicates the validity of approaches to solar power. This project should therefore become an example of decoration and furnishing of new buildings with a view to a permanent reduction of energy needs and environmental protection as a positive example of modern energy management in a small community.

### 3.3. Assessment of expected effects in the field of energy efficiency and/or use of renewable energy sources

The expected impact of the project will be visible through the achievement of certain savings in the use of electricity. The electricity generated by solar power will be used exclusively for their own consumption for heating the interior space. Besides the economy, which includes reducing energy needs it is important to emphasize the protection of the environment arising as a positive example of this kind of energy management. Any lack of electricity will be used from HEP's network. Based on consultation with experts in the field of energy efficiency, adopted recommendations regarding types and ways to reduce the cost of electricity, with an emphasis on the use of the building. Carried out market research in order to collect information on prices and where to buy the necessary equipment for the construction of solar power plants. Bills are made and prepared the documentation for public procurement. After the decision on granting the funds the process of public procurement begun and in a very short period of time the implementation of the project started. Production of photovoltaic system at a particular location depends on a number of technical and natural parameters. Although it is technically impossible to predict absolutely accurate production, different software packages can be obtained quite precise production estimation.

„The precision of the budget depends on:

- irradiated solar energy on the surface of the module, where the essential orientation and angle
- ambient temperature, and temperature of modules
- the technology used modules, technical characteristics and configuration module
- losses in cables DC and AC sides“ (Projekt, Izgradnja solarne elektrane na knjižnici i čitaonici u Pleternici (2013), PčP d.o.o., Službeni dokument, p. 5.)

Expected production of electricity is shown in the table below refers to the production of electricity FNE per month for a period of one year. Expected degradation of the module is 1% of the initial value of the power module after year, because of the weather and the surrounding influences.

**Table 2** Estimates of production of electricity from solar power plant (30 kW) for the continental part of Croatia, Source: Projekt korištenje obnovljivih izvora energije, Izgradnja solarne elektrane (fotonaponskih modula) na knjižnici i čitaonici u Pleternici (2013),

Month	Production per month (kWh)	Production per day (kWh)
Jan	1169	38
Feb	1575	56
Mar	2478	80
Apr	3069	102
May	3595	116
Jun	3536	118
Jul	3945	127
Aug	3711	130
Sep	3069	120
Oct	2309	74
Nov	1283	44
Dec	961	32
<b>Annual average</b>	<b>2558</b>	<b>84</b>
<b>Total Year production (kWh)</b>	<b>30700</b>	

Source: Poduzetnički centar Pleternica d.o.o., Official document

### 3.4. Analysis of profitability – construction of solar power plant 10-30 KW

- „Total annual consumption 30700 kWh x 0,67 = 20.569,00 kn

So from the above analysis of the feasibility of the construction and cost-effectiveness of the system of 30kW, it is evident that the savings on an annual basis is 20,569.00 kunas to electricity.

1 kWh of electricity produced using conventional methods frees 0,376 kg of CO2.

- 30700kWh/year \* 0,376 kgCO2 = 11.543,20CO2 (kg/year)/11,5432CO2 (t/year)

As renewable energy has no CO2 emissions or very negligible, from the above calculation shows that the year on year building Pleternica incubator using renewable energy sources to reduce greenhouse gas emissions by 11.5432 CO2 (t / year).“ (Projekt, Izgradnja solarne elektrane na knjižnici i čitaonici u Pleternici (2013), PcP d.o.o., Službeni dokument, p. 6.-7.)

### 3.5. Conclusions about solar power plant on Pleternica Library

Installing solar panels on the roof of the Library brings a lot of positive results. Primarily to preserve the environment because solar panels, as such, do not produce pollution of the environment, and with it the system that when incorporated completely silent and does not interfere in any sense. Also important is the fact the realization of financial savings that will be achieved by installing the panels which is especially important because it is a newly built building that has a large surface area and, as such, will require large power consumption.

## 4. Future and action plans

City of Pleternica and their residents are aware of the need for energy management and together with all representatives of local and regional governments signed the Energy Charter mayor and mayor of the Croatian.

„City Administration of Pleternica is responsible and committed to energy sustainable development of the city, which rests on the principles of energy efficiency, sustainable building and use of renewable energy through several activities:

- Ongoing implementation of programs and projects of energy efficiency in buildings owned by the city,



- Promoting programs and projects aimed at reducing fuel consumption and increase the quality of transport
- The implementation of measures, projects and programs in energy efficiency in the sector of public lighting in the City,
- Planning development center on the principles of energy - environmental sustainability,
- Continuous informative - educational activities and campaigns about ways to increase energy efficiency and reduce CO2 emissions by raising public awareness of the necessity of saving energy in all aspects of life and work,
- Support programs and initiatives by various persons and entities with a view to increasing the use of renewable energy sources,
- Promoting local production of energy from renewable sources and cogeneration. The city expresses the political will to manage energy at the local level, to protect the environment and the rational management of resources for the benefit of the local community and all its citizens. The issue of energy efficiency were given priority in all plans, Pleternica by 2020 wants to become completely energy independent city in terms of public needs.

The development of this Action Plan included seven main activities:

- Determination of the time frame of the implementation of the Action Plan,
- Classification sectors of energy consumption,
- Analysis of energy consumption by sector,
- Determination of priority sectors of activity according to the results of the analysis of energy consumption,
- The plan of priority actions and measures to achieve the set goals of reducing CO2 emissions by 2020,
- Determination of the dynamics of the implementation of the Plan of priority actions and measures,
- Setting goals for reduction of energy consumption and associated CO2 emissions.“ (Akcijski plan 2014 -2020, PcPd.o.o., Službeni dokument, p. 1.-2.)

#### **4.1. The energy policy of the city of Pleternica**

Action Plan (the Plan) is a key document on the basis of the collected data on the existing situation recognizes and gives precise and clear guidelines for the implementation of projects and measures of energy efficiency and renewable energy at the local level, which will result in a reduction of CO2 emissions more than 20% by 2020.

„The main objectives of the development and implementation of the Plan are:

- reduce CO2 emissions by implementing energy efficiency, using renewable energy sources, energy demand management, training and other measures,
- as much as possible to contribute to security and diversification of energy supply of the city,
- reduce energy consumption in buildings, public lighting and traffic
- zoning policies to enable the transformation of urban areas in an environmentally sustainable.“ (Akcijski plan 2014 -2020, PcP d.o.o., Službeni dokument, p. 4.)

The Action Plan seeks to be structured and planned approach to increasing the energy efficiency of buildings in the area of Pleternica and related settlements. Included will be a facility owned by the City of Pleternica and municipal companies and facilities that are not owned by the City of Pleternica, but are very important for the whole local community and their energy renewal is key to their continued use and operation.

The aim of all public facilities in the City of Pleternica do what is possible more efficient in terms of energy consumption and achieve savings by using the priority of energy efficiency and using renewable energy sources.

The plan is focused on long-term changes in energy systems within cities and define measurable targets aimed at reducing energy consumption, and consequently the emission of CO<sub>2</sub> and other harmful gases. The plan applies to all the administrative area of the city, including the public and private sectors. The plan defines the measures and projects in the building sector, public lighting and traffic not including the industrial sector, as the sector of the industry is not under the jurisdiction of cities and it is difficult to influence. Plan in all its aspects should be agreed with the institutional and legal framework at EU, national and local level and cover the period up to 2020.

In addition to energy savings, the results of the activities and measures set out in the Plan are reflected in the creation of new jobs, which in the future will not be centralized, a healthier environment and improved quality of life, increase economic competitiveness and greater energy independence.

The most important objective of the program is the selection and implementation of energy efficiency measures, renewable energy sources and environmentally friendly fuels in buildings and public lighting system in the City of Pleternica.

Pleternica signatory to the Energy Charter of Mayors and mayor of the Croatian, which is expressed awareness and political will to manage energy at the local level, to protect the environment and the rational management of resources for the benefit of the community and all its citizens. Accordingly, the issue of energy efficiency has gained its place and the Development Strategy of the City of Pleternica, which was adopted by the City Council of the City of Pleternica.

„According to the Development Strategy of the City of Pleternica 2014 - 2020th of December 2013, defines the strategic objectives for the development of Pleternica:

- promoting the competitiveness of the economy,
- improvement of infrastructure,
- encouraging social activities,
- energy efficiency and management of natural resources,
- development of human resources.

The Plan specifically bound to the strategic goals of energy efficiency and management of natural resources.“ (Akcijski plan 2014 -2020, PčPd.o.o., Službeni dokument, p. 6.)

## 5. Conclusion

It has been concluded that the renewable energy sources lie numerous potentials and opportunities and to use the same source of energy becomes necessary, because of legal regulations, because of financial justification. Pleternica, although quite small can and should be an example to all cities and towns in terms of a desire for self-sustainability. It is not good to waste already scarce resources and "throw" the excess energy produced. There are many possibilities and sources of funding, it is only important to have good ideas, the will and the necessary knowledge and success certainly will not fail. Pleternica, as it is summarized in this paper is constantly working on new programs, these people are constantly working on improvements in every sense, and the same is recognized at both national and international level, and which can be seen mostly through media coverage and the use Pleternica successful and energy efficient story.

## REFERENCES

Barković, D. (2009), **Menadžersko odlučivanje**, Ekonomski fakultet u Osijeku, ISBN 978-953-253-069-8, Osijek

Pernick, R., Wilder, C. (2007), **The Clean Tech Revolution**, Collins, ISBN 0-06-089623-X

Philibert, C. (2011), **Solar energy perspectives**, Organisation for Economic Co-operation and Development/International Energy Agency, ISBN 9264124578

**Akcijski plan razvitka grada Pleternica s ciljem postizanja energetske učinkovitosti i obnovljivih izvora energije 2014 -2020**, Poduzetnički centar Pleternica d.o.o., Službeni dokument

**Akcijski plan energetske učinkovitosti grada Pleternice 2015.-2017. (2015)**, Poduzetnički centar Pleternica d.o.o., Službeni dokument

**Predinvesticijska studija mHE Pleternica (2013)**, Poduzetnički centar Pleternica d.o.o., Službeni dokument

**Projekt korištenje obnovljivih izvora energije, Izgradnja solarne elektrane (fotonaposnih modula) na knjižnici i čitaonici u Pleternici (2013)**, Poduzetnički centar Pleternica d.o.o., Službeni dokument

**Anita Peša, Assistant Professor**

University of Zadar, Department of Economics  
Splitska 1, 23 000 Zadar  
Phone: 023/ 400 402  
E-mail address: apesa@unizd.hr

**Jurica Bosna, Assistant**

University of Zadar, Department of Economics  
Splitska 1, 23 000 Zadar  
Phone: 023/ 400 406  
E-mail address: jbosna@unizd.hr

**Ivana Majdić**

Ceste zadarske županije d.o.o.  
Postrojbe specijalne policije Zadar 2, 23 000 Zadar  
Phone: 023/250 509  
E-mail address: ivanazoriczd@gmail.com

**ANALYSIS OF WASTE MANAGEMENT SYSTEM IN THE REPUBLIC OF CROATIA**

**ANALIZA SUSTAVA UPRAVLJANJA OTPADOM U REPUBLICI HRVATSKOJ**

**ABSTRACT**

*Waste has become one of the most significant issues of modern society due to its (un)appropriate disposal and significant impact which it has on the environment and people's health. Process of waste management includes harmonized actions of larger number of participants like state and local municipalities, companies, citizens, media etc. while it should meet the needs of all stakeholders and encourage them for their effective participation.*

*Paper especially analyzes waste management system in the Republic of Croatia on the basis of contemporary and relevant literature, strategic documents and laws while finds out how Croatia has a huge number of elaborated legal acts and strategic documents which are focused on achieving efficient waste management system. However, integrated waste management system in Croatia is not still present in practice.*

*Croatia should pay attention on reduction of waste volume, involvement of users in the projects and creation of efficient integrated waste management system. Citizens and companies should be more informed about the purpose, classification and proper disposal of waste while local and regional governments should have enough incentives for joint problem-solving at regional level.*

**Keywords:** *waste disposal, integrated waste management system, sustainable development.*

**SAŽETAK**

*Otpad predstavlja jedan od najznačajnijih problema suvremenog društva zbog njegovog neadekvatnog odlaganja te značajnog utjecaja kojeg ima na okoliš i zdravlje ljudi. Gospodarenje otpadom predstavlja koordinirane aktivnosti većeg broja sudionika kao što je to država i lokalne*

*samouprave, tvrtke, građani, mediji te ostale interesne skupine pri čemu je potrebno zadovoljiti njihove potrebe te ih potaknuti na efikasno sudjelovanje.*

*Rad se posebno bavi analizom sustava gospodarenja otpadom u Republici Hrvatskoj na temelju izučavanja suvremene i relevantne literature te strateških dokumenata i zakona pri čemu se doznaje kako Republika Hrvatska ima mnogo zakona i strateških dokumenata koji imaju za cilj uspostavu efikasnog sustava gospodarenja otpadom. Međutim, integralni sustav gospodarenja otpadom u Republici Hrvatskoj još uvijek nije prisutan u praksi.*

*Republika Hrvatska bi trebala svoje napore usmjeriti na smanjivanje količine otpada, što efikasnije uključivanje korisnika usluga zbrinjavanja otpada u sam proces zbrinjavanja otpada te na uspostavu integralnog sustava gospodarenja otpadom. Korisnici usluga zbrinjavanja otpada bi trebali biti bolje informirani o svrhi, klasifikaciji i adekvatnom zbrinjavanju otpada pri čemu bi regionalne i lokalne samouprave trebalo poticati na zajednično rješavanje problema zbrinjavanja otpada na regionalnim razinama.*

**Ključne riječi:** *zbrinjavanje otpada, integrirani sustav upravljanja otpadom, održivi razvoj*

## **1. Introduction**

As a result of the rapid development of technology, significant population growth and long-term urbanization, global population since the mid-twentieth century constantly encounters the problem of waste (Kemeter, 2013). In modern society, almost everything, material, equipment or facility after a short or long time period becomes waste (Marinković et al. 2014). Waste has been defined as any substance or object determined by categories of waste as prescribed by the regulation, which holder throws, intends or must throw (Kemeter, 2013). Kučar et al. (2006) states that waste is direct consequence of economic growth and its amount direct indicator of social development. Waste has been considered as one of the most crucial ecological issues of the contemporary world while its effective disposal has a significant role. There are numerous factors that influence the quality of waste management (Hoornweg and Bhada-Tata, 2012).

The main idea of different kind of waste disposal is its isolation from external influences, contact with the environment and people until it is no longer a threat (Mostečak, 2012). Tušar (1994) pointed out how waste treatment is a technological process that harms the environment, and for certain types of waste should choose the most appropriate procedure in compliance with all technical, economic and technological conditions.

Landfill, dump or junkyard is defined as a facility intended for permanent waste disposal (Barčić and Ivančić, 2010). Official landfills should be located on carefully selected locations, or on locations which appropriately deal with environment protection, aesthetic conditions, access and the conditions of exploitation. Technology work at the landfill has been based on environmental safety and increasing utilization of landfill.

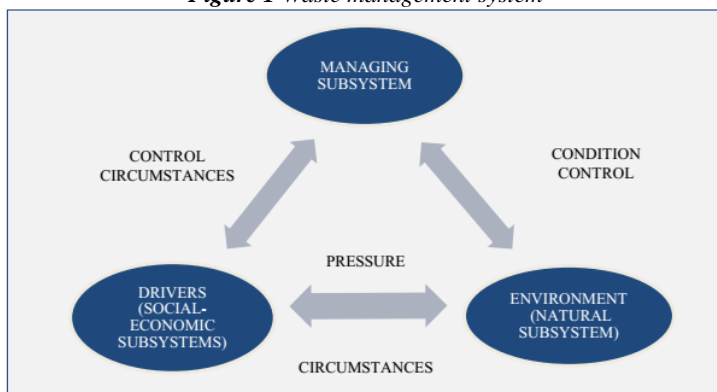
Waste management plan for the Republic of Croatia from 2007 to 2015 recognizes need for treatment of waste before its disposal, as suggests Directive 99/31/EZ, while mechanic-biological treatment has been usually the most planned municipal waste treatment technology whose aim is to reduce the amount of the waste that needs to be disposed on the landfills (Petrović et al., 2010).

The aim of this paper is to analyse Croatian waste management system and to point out role and importance of integrated waste management system in Croatia. The purpose of this paper is to show the importance of an efficient waste management with the emphasis on the participation of all stakeholders during its construction (especially waste disposal service users).

## 2. Integrated Waste management system and environment protection

Waste management represents the most important element in the context of environment protection strategies and impact on the environment in developed and transition countries (Stanić et al., 2009). Grum (2013) waste management defines as a set of measures and activities aimed for the rational and efficient management of all waste disposal phases like formation, collection, transport and processing until its final disposal. Moreover, Kemeter (2013) states how contemporary waste management represents set of measures, decisions and activities for waste prevention, reduction of its amount and negative impact on the environment. Waste management system is complex, and its complexity is evident in the large number of factors that affect the characteristics of its three main subsystems. These are socio-economic, environmental and managing subsystem (Figure 1).

*Figure 1 Waste management system*



*Source: Made by authors according to Erdelez et al., 2007.*

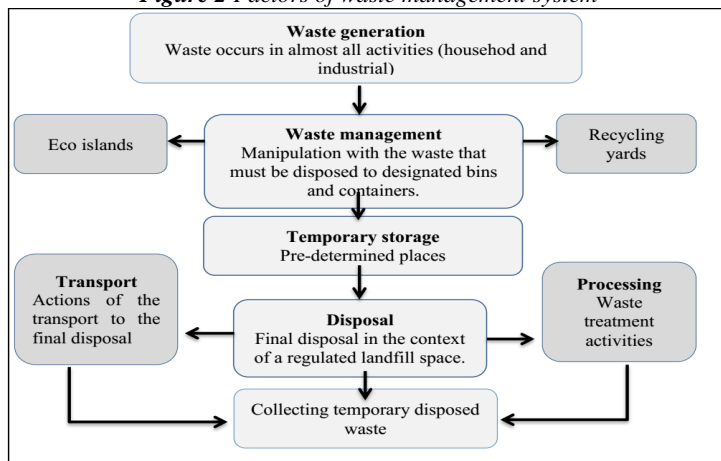
In order to effectively manage waste management, it is necessary to take into account the economic aspect. Waste management systems should preserve adequacy of income and the costs generated by the system. This applies not only to covering the costs of waste collection and transport, but also to manage them in accordance with the EU standards. It is necessary to exercise supervision over the management of waste and the companies, as well as appropriate evaluation (Ulfić and Novak, 2014).

Economic dimension refers to the maintenance of the natural, social and human capital. Social dimension defines politics for managing the natural resources in a manner to increase social equality, and reduce social disorders. Final dimension, nature – refers to sustainable environment which improves prosperity by protecting natural raw material resources (Kordej-de Villa, 1998). It is crucial to apply the principle of sustainable development in the context of municipal waste management. The need for this is quite understandable in view of environmental protection and social responsibility (Ulfić and Novak, 2014). Vukonić (2010) sustainable development defines as conception which wants to improve quality of life by combining economic development, protection of nature and social responsibility. Another words, sustainable development makes balance between social, economic and ecological aspect from local to global level (Korošec and Smolčić-Jurdana, 2013).

Contemporary waste disposal trend in the most of the countries has been designed like integral waste management system which includes waste reduction, reuse without treatment and recycling process (Ivšić et al., 2004). This concept includes a range of actions related to monitoring and treatment of waste from its location until the point of final disposal (Karašić et al., 2013). These measures include the collection, recycling, treatment and disposal, while they should be based on

criteria of environmental protection, economic principles and the principles of social acceptability. Each action within an integrated waste management system has a specific role in the planned system. In a manner to implement these measures, factors for its implementation should be defined (Figure 2).

**Figure 2** Factors of waste management system



Source: Made by authors according to Karašić et al., 2013.

Integrated waste management system demands long period adjustment of the society and economy which requires a large initial investment, so landfills in most of the countries remain simpler and initially financially advantageous alternative to solve the problem of waste disposal (Ivšić et al., 2004). Moreover, waste collection and transportation is an important municipal service that involves high expenditures if not handled efficiently (Kinobe et al., 2015). The literature review has shown that over the last few years there have been many attempts to deal with waste management problems and to find the practical solution successfully. However, the procedure becomes very complex because there is variety of mutually conflicting factors that influence the waste management process (Vasiljević-Shikaleska, 2014).

Progress towards the goal of sustainable waste management is carried out in accordance with the order of precedence. This means that it is necessary to increase the share of re-use, recycling and other types of waste recovery (AEP, 2013).<sup>1</sup>Milanović (2015) emphasizes how the main goal of contemporary waste management is waste disposal avoidance. To fulfill this goal, it has been established two transitional goals like ban of disposal on dumps and simultaneously reduction of biodegradable municipal waste which cause different biochemical processes in long-term deferred waste.

The benefits of integrated waste management system for the companies, according to (Baglama, 2014) are:

- improving the efficiency of production processes and business,
- recognition of the real cost of waste and its share in total business,
- waste minimization and waste prevention, and
- use of materials in the production processes that are less harmful for the environment.

<sup>1</sup>Agency for environment Protection. *Gospodarenje otpadom postupcima R/D*, 2013. Available at: [www.azo.hr/lgs.axd?t=16&id=5396](http://www.azo.hr/lgs.axd?t=16&id=5396)

Due to differences in the quality of specific waste treatment procedures, European directives and the Waste Act, adopted by the European Union, define the hierarchy of waste management. All waste management processes should be conducted by hierarchy because only on that way the final aim – zero waste, can be achieved. This order has been well known as abbreviation 3R according to the first initial of each process. Three main processes in integrated waste management are reduction, re-use and recovery (Kalambura, 2012).

The Republic of Croatia has adopted in the waste management strategy integrated waste management system which has been based on waste reduction, utilization of valuable components in material and / or energy purposes and permanent disposal with strict application of regulations in the Republic of Croatia and the European Union. According to Abila and Kantona (2013) the inefficient management of waste by individuals, households, consumers and waste management companies can be attributed to inadequate information on waste management benefits, lack of producers' involvement in waste management, inadequate communication between waste disposal companies and users of their services, as well as poor implementation and interpretation of government policies.

### **3. Analysis of Waste management efficiency in the Republic of Croatia**

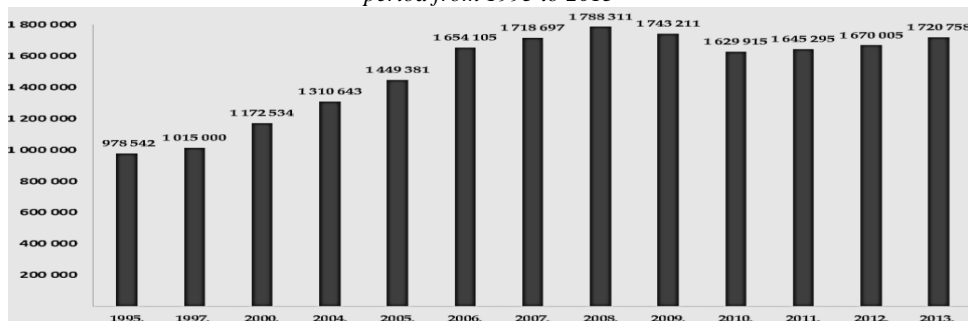
Waste management in the Republic of Croatia represents priority issue in the field of environment protection and one of the most demanding areas in terms of compliance with EU standards (Kemeter, 2011). Waste disposal has been recognized by the Croatian public as a social issue, and as a part of environment protection like waste disposal on the landfills (Mustapić, 2009).

The main participants in the waste management system in the Republic of Croatia are Croatian Parliament, Croatian Government, Ministry of Environment and Nature Protection, Fund for Environmental Protection and Energy Efficiency, central government bodies, Environmental Protection Agency, National Institute of Metrology, Croatian Accreditation Agency, county governments and the City of Zagreb, local authorities (municipalities and cities) and other participants (Kemeter, 2015). Waste management, as well as its effective implementation provide Government and the Ministry of Environment and Nature Protection. Implementation bodies at the national level are Agency and the Fund for Environmental Protection and Energy Efficiency Fund, while local governments are obliged to provide the conditions and implementation of the prescribed waste management measures in their respective areas. In accordance with the purpose of the Waste Management Strategy of the Republic of Croatia, Croatia has taken the general principles of the European Union.

Kemeter (2011) states how cities and counties in the Republic of Croatia currently organize collection and waste disposal that can't be called integrated waste management system. In the 2014. in Croatia was 143 active landfills while total amount of waste of all kinds amounted to 1.769.725 tons (AEP, 2015). Figure 3 shows total amount of the waste from 1995. to 2013.



**Figure 3** Trends in total produced quantity of municipal waste in the Republic of Croatia in the period from 1995 to 2013



Source: Made by authors according to AEP (2015)

From 1995. to 2008. is obvious continuous increase in the volume of municipal waste. Also, from 2011. to 2013. has been recorded a slight increase in reported amount of waste. Only in the period from 2008. to 2010. has been recorded a decrease in reported amounts of waste.

In the Republic of Croatia for a long period of time exists significant issues of unsustainable waste management while waste mostly ends up in dumps and have negative impact on the environment. Dumps are not regulated by the government and they lack processing control. Causes for all waste management issues in the Republic of Croatia we can find in nonperformance of laws and regulations, insufficient infrastructure, incomplete and unreliable information of quantities and waste streams and insufficient waste control (Kalambura et al., 2012). Despite that, citizens and legal persons are not sufficiently informed and educated about waste management. Marinković et al. (2014) emphasizes how education is a prerequisite for continuous and proper functioning of the waste management system and that it should include systematic education of all stakeholders about sorting, treatment of certain types of waste like composting and recycling in a manner to generate integral waste management system (Kalambura et al., 2012).

Waste Management Strategy of the Republic of Croatia (2005), as a key strategic document, defines objectives and proposed measures for their gradual realization until 2025., and thus has been created the framework for the establishment of long-term sustainable waste management in Croatia. Moreover, Runko Luttenberg (2010) defines possible concrete measures for sustainable strategic management in the waste sector (Table 1).

**Table 1** The model of municipal waste in the waste sector

<b>POSSIBLE SOLUTIONS</b>	Investing in a sustainable manner with minimum required capacity
<b>SPECIFIC MEASURES</b>	Encourage separate collection and treatment of biodegradable fraction of waste by accepted technologies, in addition to getting the matter and energy
	Cities and municipalities must create their own way for the most effective waste collection in a manner to reduce the amount of waste that that has been transporting to the landfill.
	Local communities should set up centers for recycling and reuse where citizens could bring such materials and take them free which they need to re-use
<b>ECONOMIC BENEFIT</b>	Conservation of resources: raw materials, energy, nature, soil, water, sea, air
	Higher employment

Source: made by authors according to Runko Luttenberg (2010).

Therefore, Runko Luttenberg (2010) proposes encouraging the collection and composting of waste at the landfills and its exploitation for energy. Local authorities should develop the most appropriate

method for waste collection in the area under their jurisdiction. Barić (2012) states how in the Republic of Croatia doesn't exist a complete list of landfills which have been used as either a list of illegal dumps. Croatian waste management strategy plans to gradually organize 20 counties and four regional centers for waste management by treatment plants, landfills and other facilities, in the rehabilitation and closure of the existing dumpsites.

Waste Management Plan of the Republic of Croatia (2007) for the period 2007.-2015 analyzed county waste management plans and according to them elaborated concepts for municipal and industrial waste. It has been allowed that each county has its own waste management center (also allowed their association) while centers are organized so that the capacity meet the needs of one or more counties (Domanovac, 2013). The law provides that the waste generated in the counties will be processed in the waste management centers, and on county areas until 2017. will be closed all non-compliant landfills.

The State Audit Office in 2014 performed 22 audits of waste management in Croatia. The subject of performance audits of waste management in the Republic of Croatia has been implementing the activities of bodies responsible for the establishment of waste management system in accordance with the Waste Management Plan in the Republic of Croatia. Aims of revision were evaluate the implementation of waste management plans, establish a system of separate collection of municipal waste, activities related to the development of infrastructure for the construction of integrated waste management system, the implementation of rehabilitation and closure, waste management information system, education on waste management and supervision of the implementation of waste management plans of local and local (regional) governments. The audit subjects were the Ministry of Environment and Nature Protection, Environmental Protection Fund and Energy Efficiency, Environmental Protection Agency, and all local and regional (regional) governments (20 counties, 127 cities, 428 municipalities and the City of Zagreb).

One of the biggest environmental problems in Croatia is inadequate waste management. The waste management system is not functioning completely, among other things because the regulations which establish waste management are not implemented completely. The adoption of the sustainable waste management law in July 2013, in the Croatian legal system were transferred EU directives concerning the prevention and control of pollution, waste disposal, treatment of certain types of waste and have established rules and calculation methods for verifying compliance with targets.

Priority in waste management system becomes waste prevention, preparing for reuse, recycling and other recovery procedures and ultimately disposal. It has been introduced primary waste selection on the doorstep and charging according to collected waste volume of container. Responsibility for reducing the amount of landfilled municipal waste is the responsibility of the cities and municipalities.

The National Audit Office concluded how waste management is not fully effective, because in almost all audited entities have been established irregularities and omissions in the waste management system. In Istra, Međumurje and Primorsko-goranska County were carried out significant activities for establishment integrated waste management system in the part related to the construction of waste management centers, separate waste collection, payment of utility services according to the amount of collected waste, education and implementation of landfill remediation.

#### **4. Discussion**

Waste represents one of the main issues in the Republic of Croatia but also in the world while the establishment of the integrated waste management represents one of the most important questions in the economic field. Waste management is not just public utility service which needs to be managed

rationally, but also part of health and life quality aspect. The Croatian Government, Ministry of Environmental Protection and other institutions at the national level have recognized the waste management as a significant issue, which is especially highlighted after Croatian accession to the European Union. For instance, in the latest *Law of sustainable waste management* has been more clearly highlighted the obligations and responsibilities of local governments and other stakeholders, also sanctions for those that does not fully implement the regulations in practice and elaborated in details the objectives that must be achieved in order to fully establish a system of integrated waste management.

After more than ten years from the research of Marinkov et al. (2004) habits of citizens in Croatia regarding the separate collection of waste are not significantly changed due to the inefficient waste management system at the level of local governments. Until now, the containers for separate collection of used components of waste in Croatia, despite the fact that their installation was provided in 2005, were extremely rare despite the fact that local government have legal obligation to provide citizens services which includes separate waste collection. Moreover, waste collection has been mostly referred to waste disposal on the landfills which is not referred to integrated waste management system - after seven years of the Mustapić (2009) research situation is not changed. Miletić and Bosna (2016) state that the most common users issue in the field of waste disposal is insufficient organized waste disposal. The result of this is reduced customer satisfaction which has been reflected in the reduction of trust and willingness for implementation of future projects for waste disposal. Therefore, prerequisite for successful implementation of future projects for waste management are their satisfied users. Waste disposal companies are very aware of importance in building the trust with their users of services what has a significant impact on efficient waste disposal projects.

By the fact that the most significant part of waste is one that is collected from the households, often systematic education of the population about waste sorting, treatment of certain types of waste, composting and recycling should be carried out. Also, all stakeholders should be included in a manner to form efficient integrated waste management system. Cities and counties in the Republic of Croatia currently organize collection and disposal of waste on a way that can't be called integrated waste management system. By the end of 2018, Croatia need to establish an integrated waste management system. The objectives outlined are reduction of disposal and increased recycling together with remediation of landfills and construction of waste management centers. Final aim related to establishment of an integrated waste management system is remediation and closure of all landfills and the establishment of waste management centers by the end of 2018. and separate collection of at least 50% of glass, paper, plastics and metals by 2020. These objectives should be achieved by gradually organizing twenty counties and four regional centers for waste management by treatment plants, landfills and other facilities, in the rehabilitation and closure of the existing landfills whose construction was developed by the Waste Management Strategy of the Republic of Croatia in 2005.

From 24 planned waste centers until now, only one county center has been completely build up and is in function – Mariščina waste center in Primorsko-goranska County. Until the end of 2015 county waste center Kaštijun in Istra County was scheduled to open, while most of the other centers are in a low stage of realization or had just published tenders what indicates the intensity of the progress.

## **5. Conclusion**

Waste management concept includes larger number of participants, such as state and local government, economic operators, scientific and educational institutions, medias and others whose actions need to be harmonized in a manner to generate efficient waste management system. Croatia has made a large number of laws, regulations and policy documents aimed at achieving integrated

waste management. Significant progress has been seen in the last ten years in this field, especially after 2005. when the Fund for Environmental Protection and Energy Efficiency started to work, which provides non-refundable funds for remediation of landfills, strengthening communal infrastructure with the aim of separate waste collection, as well as compensation for the organization of transportation and collection of special waste categories.

Also, by adoption of the new *Law on sustainable waste management* have been set up substantially harsher conditions for waste management activities in Croatia and placed concrete criteria for local governments. However, despite obvious progress, legislation and policy documents are not sufficiently implemented in the daily operations so it can't be said that Croatia established an integrated waste management system. Also, users are not sufficiently informed about the purpose, classification and proper disposal of waste while local and regional governments, as well as the business sector, do not have enough incentives for joint problem-solving at regional level. Generally, citizens should be more encouraged for separate waste collection while the simplest way for that can be financial incentive (or non-payment for the waste that is classified) considering that this is a good practice for the most EU countries. Local governments which on appropriate way reduce waste disposal and constantly increase the amount of recycled waste should be the example for others and be efficiently promoted.

Paper did not find out why Croatia still do not have implemented efficient integrated waste management system despite many legal regulations and policy documents what is a limitation of this paper. Therefore, problems and obstacles in the process of creating integrated waste management system should be explored in further research.

## REFERENCES

Abila, B., Kantona, J., (2013): *Municipal Solid Waste Management Problems in Nigeria: Evolving Knowledge Management Solution*, International Journal of Environmental, Chemical, Ecological, Geological and Geophysical Engineering, Vol. 7, No. 6, pp. 172-177.

Agency for environment protection (AEP) (2013): *Gospodarenje otpadom postupcima R/D*, (Internet), <available at: [www.azo.hr/lgs.axd?t=16&id=5396](http://www.azo.hr/lgs.axd?t=16&id=5396)>, (Accessed 08. September 2015).

Agencija za zaštitu okoliša, *Izvešće o komunalnom otpadu – 2013., 2014.*, <http://www.azo.hr/Izvjesca14>>, (Accessed 14September2015)

Agencija za zaštitu okoliša, *Prijave operatera odlagališta prema obrascu 000 za 2014. godinu*, 2015, <http://www.azo.hr/PrijaveOperateraOdlagalista>>, (Accessed 14September2015).

Baglama, I., (2014): *Postupak gospodarenja otpadom u Petrokemiji*, [hrcak.srce.hr/file/184415](http://hrcak.srce.hr/file/184415)>, (Accessed 14. September2015).

Barčić, D., Ivančić, V. (2010): *Utjecaj odlagališta otpada Prudinec/Jakuševac na onečišćenje okoliša*, Šumarski list, 134, pp. 347-359,

Barić, G., (2012): Okrugli stol „*Kako do cjelovitog sustava gospodarenja otpadom?*“ Polimeri, 33, pp. 87-89

Domanovac, T., (2013): *Analiza izbora lokacija županijskih i regionalnih centara u Republici Hrvatskoj*, <http://gospodarenje-otpadom.yolasite.com/resources/.pdf>, (Accessed 11 September 2015).

Državni ured za reviziju, (2014): *Izvjешće o obavljenoj reviziji učinkovitosti gospodarenja otpadom na području Republike Hrvatske*, <http://www.revizija.hr/izvjesca/2014/tr-2014/revizije-ucinkovitosti/gospodarenje-otpadom/izvjesce-o-obavljenoj-reviziji-gospodarenja-otpadom-u-republici-hrvatskoj.pdf>, (Accessed 15. September 2015)

Eko Plus d.o.o. (2015): *Gospodarenje otpadom*, [http://www.ekoplus.hr/index.php?page=gospodarenje\\_otpadom](http://www.ekoplus.hr/index.php?page=gospodarenje_otpadom), (Accessed 14. September, 2015)

Erdelez, A., Margeta, J., Knezi S., (2007): *Integralni pristup upravljanju sustavom prikupljanja komunalnog otpada*, Građevinar, No. 59, pp. 505-516

Grum, Đ., (2013): *Gospodarenje ambalažnim otpadom i zaštita okoliša*, [hrcak.srce.hr/file/146589](http://hrcak.srce.hr/file/146589), (Accessed 06. September, 2015)

Hoornweg, D., Bhada-Tata, P., (2012): *What a Waste: A Global Review of Solid Waste Management*. World Bank, Washington, DC. World Bank. <https://www.wdronline.worldbank.org/handle/10986/17388>, (Accessed 15 January 2015).

Ivšić, T., Verić, F., Petrović, I., (2004): *Pregled parametara za analize stabilnosti odlagališta otpada*, Građevinar, No. 56, pp. 665-674.

Kalambura, S., Jovičić, N., Pehar, A., (2012): *Sustav gospodarenja otpadom s osvrtom na Bjelovarsko-bilogorsku županiju*, Radovi Zavoda za znanstvenoistraživački i umjetnički rad u Bjelovaru, 6, pp. 167-177.

Karašić, M. et al., (2013): *Nacrt Plana gospodarenja otpadom za razdoblje od 2014. do 2020. godine*, <http://www.opcina-viskovo.hr/www.opcina-viskovo.hr/files/e2/e20a274b-5318-4466-b07b-13102a0b2a4f.pdf>, (Accessed 14. September, 2015)

Kemeter, D., (2011): *Zbrinjavanje otpada u Republici Hrvatskoj s osvrtom na Grad Čakovec*, Zbornik radova Međimurskog veleučilišta u Čakovcu, 2, pp. 28-41.

Kemeter, D., (2013): *Održivo gospodarenje otpadom u Republici Hrvatskoj*, Zbornik radova Međimurskog veleučilišta u Čakovcu, 4, pp. 75-82.

Kemeter, D., (2015): *Održivo gospodarenje otpadom*, Čakovec: Međimurski fakultet u Čakovcu.  
Kinobe, J., R., Bosona, T., Gebresenbet, G., Niwagaba, C., B., Vinneras, B. (2015): *Optimization of waste collection and disposal in Kampala city*, Habitat International, No. 49, pp. 126-137.

Kordej-De Villa, Ž., (1998): *Ekonomski rast i održivi razvitak*, Privredna kretanja i ekonomska politika, 9, pp. 321-341

Korošec, L., Smolčić Jurdana, D., (2013): *Politika zaštite okoliša – integralni dio koncepcije održivog razvitka Europske unije*, [http://hrcak.srce.hr/index.php?show=clanak&id\\_clanak\\_jezik=166879&lang=en](http://hrcak.srce.hr/index.php?show=clanak&id_clanak_jezik=166879&lang=en), (Accessed 08. September, 2015)

Kučar Dragičević, S., Butučić, J., Kufrin, J., (2006):*Zbrinjavanje otpada u Republici Hrvatskoj – postojeće stanje*, Arhiv za higijenu rada i toksikologiju, No. 57, pp. 263-266.

RunkoLuttenberg, L., (2010):*Environmental Protection Based on Waste and Water Utility Service Management*, Strojarstvo, Vol.52, No.6, pp.631-649.

hrcak.srce.hr/index.php?show=clanak&id\_clanak\_jezik=100904, (Accessed 09. September, 2015)

Marinković, N. et al., (2004):*Javnozdravstveni aspekti gospodarenja opasnim medicinskim otpadom*, Arhiv za higijenu rada i toksikologiju, No. 56, pp. 267-274.

Milanović, Z., (2015):*Načini zbrinjavanja otpada*, <http://gospodarenjeotpadom.hr/nacini-zbrinjavanja-otpada-te-koje-su-specificnosti-dominantnih-nacina-zbrinjavanja-otpada/>, (Accessed 06. september, 2015).

Miletić, J., Bosna, J. (2016):*Associations for Consumer Rights as Mediators in Resolving Conflict Communication Situations Between the Waste Disposal Companies and Users in the Republic of Croatia*, Business Excellence, Vol. 10, No.1, pp. – in press.

Mostečak, A., Ciglenceki, T., Veinović, Ž., (2012):*Stav javnosti o potrebi izgradnje odlagališta radioaktivnog otpada u Republici Hrvatskoj*, Rudarsko-geološko-naftni zbornik, No. 24, pp. 73-80.

Petrović, I., Szavits-Nossan, V., Štuhec, D., (2010):*Laboratorijska ispitivanja mehaničko-biološki obrađenog otpada*, hrcak.srce.hr/file/96336>, (Accessed 06. September, 2015).

Stanić, S. Buzov, I., Galov, M., (2009):*Prakse urbanog stanovništva u zbrinjavanju kućanskog otpada*, [http://hrcak.srce.hr/index.php?show=clanak&id\\_clanak\\_jezik=64479](http://hrcak.srce.hr/index.php?show=clanak&id_clanak_jezik=64479)>, (Accessed 08. September, 2015).

Tušar, B., (1994):*Čovjek-otpad-okoliš*, Gospodarstvo i okoliš, No. 2, pp. 112-114.

*Strategija gospodarenja otpadom Republike Hrvatske*. Narodne novine 2005;(130).

Ulfik, A., Novak, S. (2014):*Determinants of Municipal Waste Management in Sustainable Development of Regions in Poland*, Polish Journal of Environmental Studies, Vol. 23, No. 3, pp. 1039-1044.

Vasiljević-Shikaleska, A. (2014):*Waste Management and Models for Optimization Towards Sustainable Waste Management Systems*, Journal of Sustainable Development, Vol. 5, No. 8-9, pp. 105-123.

Vukonić, B., (2010):*Je li održivost upitna?* Acta Turistica Nova, No. 4, pp. 33-42.

Zakon o komunalnom gospodarstvu (NN 36/95, 109/95, 21/96, 70/97, 128/99, 57/00, 129/00, 59/01, 82/04, 110/04, 178/04, 38/09, 79/09, 153/09, 153/09, 49/11, 84/11, 90/11, 144/12)

Zakon o održivom gospodarenju otpadom (NN 94/13)

Zakon o zaštiti okoliša (ZZO) (NN 80/13, 110/07)

Waste Management Plan of the Republic of Croatia for the period 2007.-2015, Croatian Government.

**Maristela Primorac, MSc**

Werkos d.o.o.

Ulica Borova 6, 31000 Osijek

Phone: 098/9594-887

maristela.primorac@gmail.com

**PhD candidate Mario Primorac, BSc**

Faculty of Electrical Engineering Osijek

K. Trpimira 2B, 31 000 Osijek

Phone: +385 31 224-622 Fax: +385 31 224-605

mprimorac@etfos.hr

**Zorislav Kraus, BSc**

Faculty of Electrical Engineering Osijek

K. Trpimira 2B, 31 000 Osijek

Phone: +385 31 224-671 Fax: +385 31 224-605

kraus@etfos.hr

**TECHNO - ECONOMIC ANALYSIS OF PHOTOVOLTAIC POWER  
PLANTS APPLICATION IN EASTERN CROATIA**

**TEHNO - EKONOMSKA ANALIZA PRIMJENE FOTONAPONSKE  
ELEKTRANE U ISTOČNOJ HRVATSKOJ**

**ABSTRACT**

*In this paper, techno-economic analysis of photovoltaic systems through an explanation of the technical characteristics of photovoltaic generation and insolation maps of Eastern Croatia will be shown. Three distinct legal entities located in the city of Osijek will be analysed. The first entity to be analysed is a craft located inside the family house, second entity is a limited liability company, which in addition to offices has a manufacturing plant and a third entity is a project office with a larger number of employees. The photovoltaic power plant for the techno-economic analysis will be modelled on data of the production of photovoltaic power plant installed in the Laboratory for Renewable Energy Sources at Faculty of Electrical Engineering in Osijek. Photovoltaic power plant was built from commercial and easily available electronic components (photovoltaic modules, inverter) with total installed capacity that amounts to 10 kWp. Cost-benefit analysis will be carried out for the three aforementioned legal entities with respect to their specificity, in a way that for each legal entity photovoltaic power plant will be modelled separately. Data on the production of photovoltaic power plant that will be used for modelling and data on electricity consumption of all legal entities were collected simultaneously at all locations over a period of one year and will be shown on a monthly basis.*

*Techno-economic analysis will be based on the results of measurements of electricity production, electricity consumption of different legal entities taking into account their specifics and information on photovoltaic power plants construction prices and electricity prices. Special emphasis in the analysis will be put on realized technical and financial benefits for each legal entity separately. Also, the techno-economic analysis will take into account the different possibilities of co-financing, financial incentive and subsidizing the construction of photovoltaic systems available in Croatia.*

Finally, based on the techno-economic analysis, conclusion will be given and the main advantages and disadvantages of the opportunities for exploitation of solar radiation energy for electricity production in photovoltaic power plants for different legal entities will be pointed out.

**Key words:** Photovoltaic power plant, Economic justification, Production, Consumption, Legal entity

## SAŽETAK

U ovom radu će se prikazati tehno-ekonomska analiza fotonaponskih sustava kroz objašnjenje tehničkih značajki fotonaponske elektrane i insolacijske karte za područje istočne Hrvatske. Analizirat će se tri različita pravna subjekta koja se nalaze na području grada Osijeka. Prvi pravni subjekt koji će se analizirati je obrt, koji se nalazi unutar obiteljske kuće. Drugi pravni subjekt je društvo s ograničenom odgovornošću koji osim uredskih prostorija ima i proizvodni pogon, dok je treći pravni subjekt projektni ured s većim brojem zaposlenih. Fotonaponska elektrana za tehno-ekonomsku analizu će se modelirati na temelju podataka o proizvodnji fotonaponske elektrane instalirane u Laboratoriju za obnovljive izvore energije elektrotehničkog fakulteta u Osijeku koja je izgrađena od komercijalnih i lako dostupnih elektroničkih komponenti (fotonaponski moduli, izmjenjivač), a njena ukupna instalirana snaga iznosi 10kWp. Tehno-ekonomska analiza će se provesti za tri prethodno navedena pravna subjekta s obzirom na njihove specifičnosti, na način da će se za svaki pravni subjekt fotonaponska elektrana modelirati zasebno. Podaci o proizvodnji fotonaponske elektrane koji će služiti za modeliranje i podaci o potrošnji električne energije svih pravnih subjekata prikupljeni su istovremeno na svim lokacijama kroz razdoblje od godine dana te će biti prikazani na mjesečnoj bazi.

Tehno-ekonomska analiza će se temeljiti na rezultatima mjerenja proizvodnje električne energije, potrošnje električne energije različitih pravnih subjekata, specifičnostima triju pravnih subjekata te podacima o tržišnim cijenama izgradnje fotonaponskih elektrana i cijene električne energije. Posebni naglasak analize staviti će se na ostvarene tehničke i financijske dobiti svih pravnih subjekata zasebno. Također, u tehno-ekonomskoj analizi će se uzeti u obzir različite mogućnosti sufinanciranja, poticanja i subvencioniranja izgradnje fotonaponskih sustava dostupne u Hrvatskoj. Na temelju provedene tehno-ekonomske analize na kraju rada će se dati zaključci te istaknuti glavne prednosti i nedostaci mogućnosti iskorištavanja energije sunčevog zračenja za proizvodnju električne energije u fotonaponskim elektranama za različite pravne subjekte.

**Ključne riječi:** fotonaponska elektrana, ekonomska opravdanost, proizvodnja, potrošnja, pravni subjekt.

### 1. Introduction

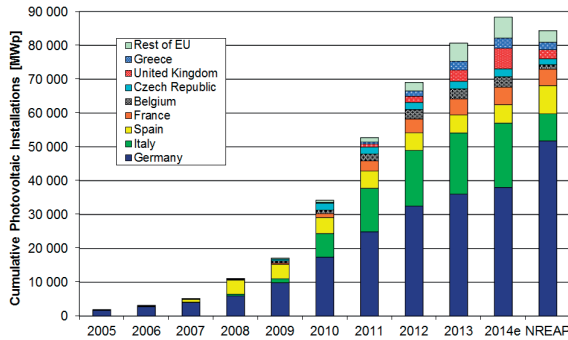
Liberalization of the electricity market, determination to reduce CO<sub>2</sub> emissions, development of distributed production and constant increase in electricity consumption lead the development of the power system in a new direction, which is very different from its traditional configuration. The new configuration tries to implement renewable energy sources (wind turbines, photovoltaic power, fuel cells, microturbines, etc.) with conventional sources in existing power systems (C. Roncero-Clemente et al. 2013).

All European Union countries, including the Republic of Croatia have taken a commitment to change policies in the energy sector. European Union in 2007 promoted herself to a global leader in tackling climate changes, and is obligated to increase the share of energy production from renewable sources to 20% by the year 2020. According to Eurostat in 2013 the share of energy generated from renewable sources in gross total energy consumption in the European Union reached 15.0% (European Commission, 2015).



If large hydropower plants are left out, globally in recent years the largest share of distributed generation have wind turbines while photovoltaic systems have the highest growth rate (REN21, 2015).

**Figure 1.** Cumulative installed grid-connection PV capacity in EU (Source: PV Status Report 2014)



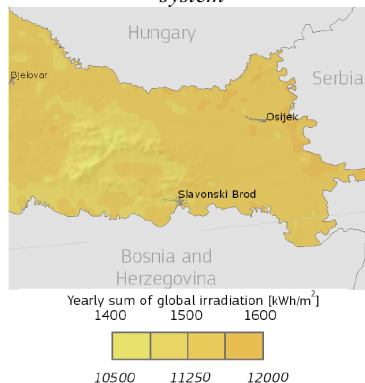
Source: PV Status Report 2014

The Republic of Croatia follows a global trend of renewables where installed power of wind power is higher than the one of the PV that comes on the second place. According to the data of the Croatian energy market operator, just in the past year (2015) 83.133 MW of new power plants fuelled by renewable energy sources were connected to the Croatian power system (HROTE, 2015).

### 1.1. Solar radiation and photovoltaic electricity potential in Eastern Croatia

The energy potential of the eastern Croatian, except in biomass as a primary form of renewable energy source in Slavonia and Baranja lies in the utilization of solar energy. Unlike other renewable energy sources potential, accurate potential of solar energy is difficult to determine. Thus the potential of solar energy to produce electricity should be shown in terms of energy needs and lack of energy in a particular area. Regardless of the energy needs, Figure 2 shows the potential of solar energy in the eastern Croatian on annual basis for the optimum angle of the 10 kWp PV system.

**Figure 2.** Annual energy production potential in eastern Croatia generated on 10 kWp photovoltaic system

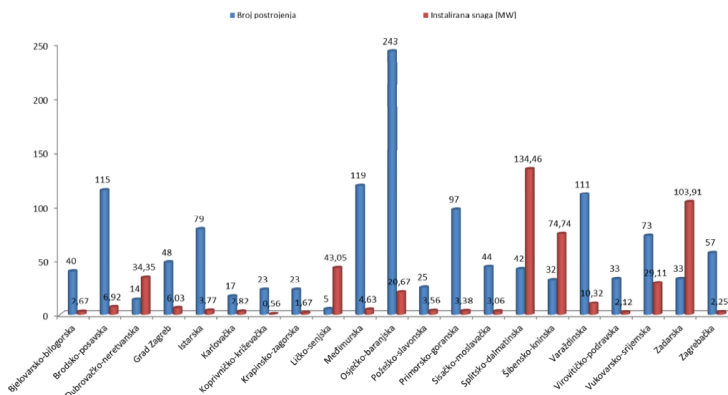


(Source: Huld et al 2012)

Map of solar insolation for eastern Croatia shows a relatively high solar potential compared to other EU countries, especially Germany, a leader in the implementation of photovoltaic systems.

According to the latest data of the Croatian Energy Market Operator (HROTE) for 2015, eastern Croatia leads in the number of power plants on renewable energy in comparison to the rest of the country, but the installed capacity is below average, as shown in Figure 3.

**Figure 3.** Installed capacity and number of plants incentivized by counties in the Republic of Croatia state in December 2015



Source: HROTE

Unfortunately, if we compare eastern Croatia, and the whole country for that matter with the global implementation of photovoltaic systems, implementation is quite slow but is getting better from year to year.

## 2. Legal regulations in the Republic of Croatia

An important step forward in legislation of the renewable energy sector took place in 2007. Since then, every year, the ordinance amending Regulation on Incentives for electricity produced from renewable energy sources and cogeneration is brought, which defines the amount of the incentive fee for each year.

The European Commission by the adoption of new guidelines on state subsidies for environmental protection and renewable energy requires creation of a system of premiums and the competition system for the premiums. Accordingly, the Republic of Croatia in September 2015 brought the new Law on renewable energy sources and high-efficiency cogeneration, applied since 01.01.2016.g.

The new law recognizes three types of premiums (incentives) for eligible producers of electricity. Incentive by market premium, incentive by guaranteed purchase price and the category for end customers with his own production. For each stimulus type it is needed to be part of the quota i.e. to be chosen as one of the best bidders in a public tender conducted by the operator of the electricity market at least once a year, by public auction.

With the new system of premiums eligible power producers, whose production plant or production unit has a capacity of more than 30 kW, are obliged to find a buyer.

## 2.1. Incentives by market premium

Market premium model (Figure 4) is most similar to the German model, which defines that future producers of electricity from renewable energy sources will make contracts to sell electricity at the market price, and the operator of the electricity market will pay the difference between the average production cost of renewable energy sources and the market price.

The implementation of this model is carried out on the basis of a public announcement, and in case of availability of quotas, where the operator of the electricity market makes the decision on selecting the most favourable bidders. The operator on the basis of the best bid determines the reference price for electricity and for each production facility or production unit in the accounting period calculates market premium (T<sub>Pi</sub>).

The market premium has an accounting period of one month and is calculated according to the formula:

$$T_{Pi} = RV - TC_i$$

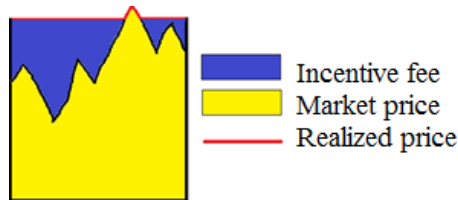
where:

TC<sub>i</sub> – reference market price of electricity in the accounting period, expressed in kn/kWh

RV –reference price of electricity stipulated by market premium, expressed in kn/kWh

If the calculated value of the market premium is negative, the premium is equals to zero.

*Figure 4. Schematic representation of market premium incentive model*



*Source: Knezevic*

## 2.2. Incentive by guaranteed purchase price

Like the previous tariff system, a guaranteed purchase price incentive system is a kind of system that encourages the production of electricity from generating plants using renewable energy sources and high-efficiency cogeneration up to and including 30 kW. The right to conclude a contract for selling electricity can realize project leaders who have been elected as the best bidder in a public tender, which is carried out at least once a year and in case of availability of incentive quotas. Amount of guaranteed redemption price will be adopted by special Regulations.

## 2.3. End customers with his own production

End customer with its own production model is intended to eligible producers of electricity with the total power of all production units at one metering point of 500 kW or less. In addition, emphasis is placed on power where the power of production of End customer with its own production (in direction where he supplies electricity to the grid) does not exceed the end customers with his own production power of consumption (in direction where he is supplied from the grid).

Electricity suppliers are obliged to take over surplus electricity from end customers with its own production of electricity. Price of the electricity supplied by end customer with his own production  $C_i$  is determined in the accounting period and is calculated according to the formulas:

$$C_i = 0,9 * PKC_i, \text{ if for the accounting period } E_{pi} \geq E_{ii} \text{ is true,}$$

$$C_i = 0,9 * PKC_i * E_{pi} / E_{ii}, \text{ if for the accounting period } E_{pi} < E_{ii} \text{ is true}$$

**$E_{pi}$**  - total electricity taken from the grid by the buyer within the accounting period  $i$  expressed in kn/ kWh

**$E_{ii}$**  - total electricity supplied to the network by generating plant owned by the customer, within the accounting period  $i$ , expressed in kn/kWh

**$PKC_i$**  - the average unit price of electricity that the customer pays the supplier for sold electricity, without fee for use of the network and other fees and taxes, within the accounting period  $i$ , expressed in kn/kWh

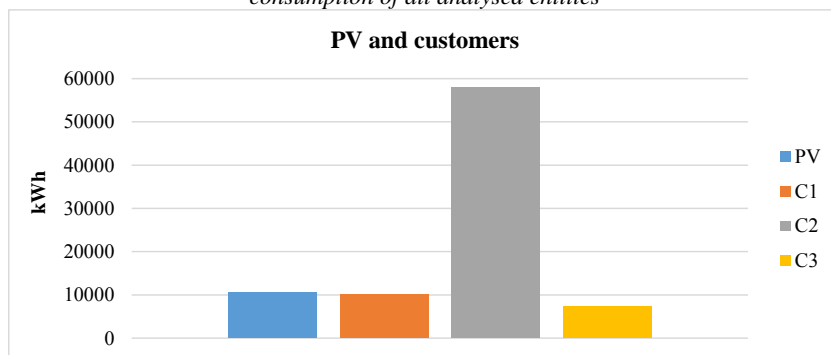
The supplied electricity and purchased electricity is measured through the same metering point. The calculation is performed at each accounting period by reducing the bills for the purchased electricity to end customers with his own production to the amount calculated using the above expression.

The new law establishes the EKO balance group for all producers who are entitled to eligible price and whose manufacturing facility exceeds the power of 30 kW. EKO's balance group was created to cover costs incurred by cost of balancing energy. EKO balance group is settled by the operator of the electricity market from the funds for payment of subsidies (compensations) and the monthly fees paid by members of the ECO balance group.

### 3. Techno-economic analysis

Techno-economic analysis was carried out on three different legal entities for photovoltaic power plant with capacity of 10 kWp. The power plant was built by commercial and widely available components and is located on the roof of the Faculty of Electrical Engineering as part of the Laboratory for renewable energy sources. All analysed legal entities located in the city of Osijek. The first entity is a craft and is located inside the family house. Consumption of this legal entity, on annual basis, is almost identical to the production of photovoltaic power plant. The second legal entity is the production facility. This entity consumes several times more electric energy than the PV power plant produces. Design Office, as last of analysed consumers, has lower annual electric energy consumption than is produced by photovoltaic power plant. The relations between production and consumption (in kWh) of electric energy are shown in Figure 5.

**Figure 5.** Relations between generated photovoltaic electric energy and electric energy consumption of all analysed entities

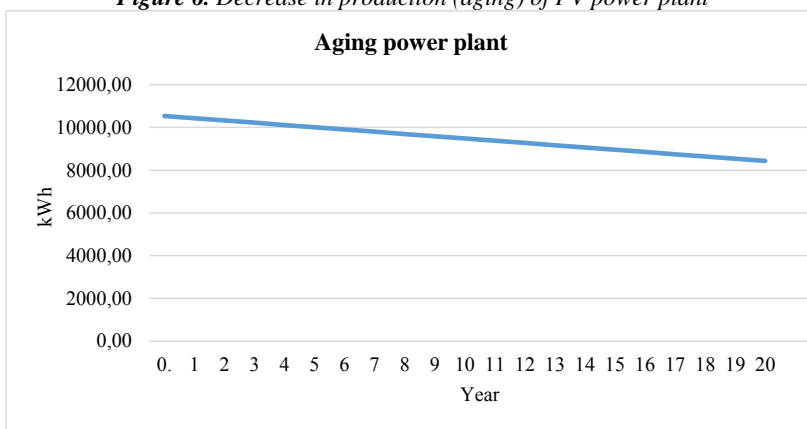


Source: authors

The analysis is conducted on the basis of data obtained by measuring the production of photovoltaic power plant and data obtained from the local distributor of electricity for consumption of each legal entity. Data were collected simultaneously in all locations over a period of one year. Analysis of the data obtained was carried out in such a way that for each legal entity and its' photovoltaic power plant calculation is done on a monthly basis for a time period of 20 years, that is, for the life expectancy of photovoltaic power plants.

Assumptions used in the preparation of the analysis are that inflation is proportional to the growth of electric energy prices, and that the purchase price of generated electric energy also follows inflation. In addition to inflation, it was assumed that the funding of the construction of power plants is from entities' funds. The analysis also takes into account the aging of the system through 20 years, i.e. it approximates the aging of power plant according to the manufacturer's instructions. Equipments' manufacturer states that the reduction in production of photovoltaic modules is 10% in 10 years, shown in Figure 6.

**Figure 6. Decrease in production (aging) of PV power plant**



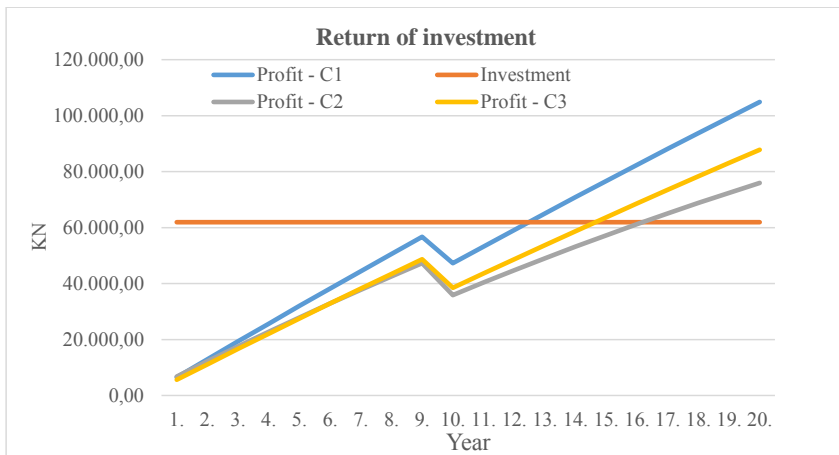
Source: authors

The analysis of implementation of photovoltaic systems in the economy is consisted of two parts. The first part is the analysis of production and consumption separately for all legal entities, while the second part analyses the application of the new Law on renewable energy sources and high-efficiency cogeneration systems applied on the most profitable system (entity) of the first part of the analysis.

The first part of the analysis begins by comparing the monthly production and power consumption of each entity separately on an annual basis. Using the given data, the production and consumption of each legal entity through a period of 20 years is approximated. A legal entity its' eventual excess of produced electricity sells to a local network distributor at the market price. Current prices offered by the local distributor is 0.345 kn / kWh (0.03451 € / kWh).

Profit realized by the entity is expressed through the energy savings that entity does not have to purchase from the local distributor and the fees associated with the kWh of produced electricity. These fees are business excise, network fees and compensation for renewable energy. Special emphasis in the calculation of return of investment has been placed on the subsidy from Fund for Environmental Protection and Energy Efficiency. The amount of the subsidy is 40 % of the total investment to build a photovoltaic system. The analysis of the application of photovoltaic systems also takes into account the funds necessary for the maintenance of photovoltaic systems. According to the latest report of the European Commission it amounts to 1.5 % of total investment (PV Status Report 2014). According to the same source it is necessary to replace inverter once in the life time of the photovoltaic power plant (after 10 years). The investment of replacing the inverter is about 220 €/kWp (Pelín at all). Results of analysis taking all these parameters into account are shown in Figure 7.

**Figure 7. Return of investment for all three legal entities**

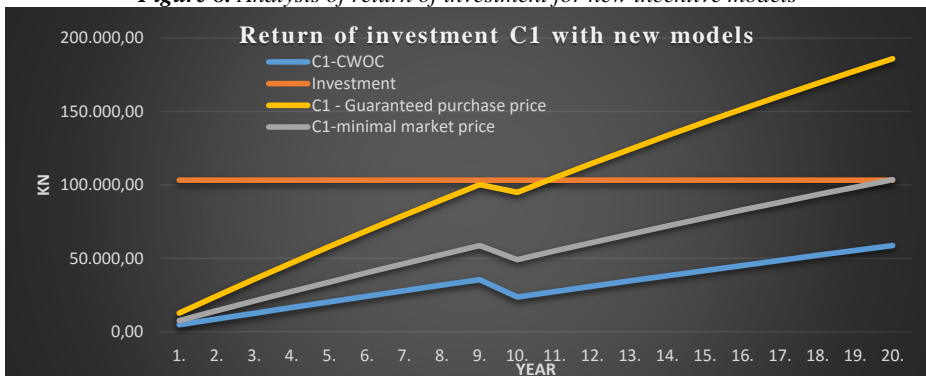


Source: authors

The quickest return of investment, as is shown in Figure 7, is for the first of the studied legal entities i.e. consumer where the consumption of electric energy is equal to the production in the PV power plant.

The second part of analysis takes into account only the first legal entity and carries out an application of the new Law on renewable energy sources and high-efficiency cogeneration. Analysis is performed with the same initial conditions and assumptions, except subsidy Fund for Environmental Protection and Energy Efficiency as the privileged producer of electricity cannot be subsidized more than once. For the first model, *Incentives by market premiums*, analysis shows the lowest price that the investor can enter the market, and the rest of the "lost" value is compensated by the electricity market operator. The minimum selling price, excluding taxes and fees, should not be less than 0.85 kn/kWh. The minimum price for the kWh is the lowest selling price at which the total investment will be returned through the entire lifetime of the power plant. Analysis of the model *Incentive by guaranteed purchase price* was carried out with the current subsidized price of 1.91 kn/kWh (HROTE). *End customer with his own production* is the third model of the new Law and is analysed with the median price of kWh legal entity was paying to the local distributor in the last year. In this case it amounted to 0.4778 kn/kWh. The results of the second part of the analysis are shown in Figure 8.

**Figure 8. Analysis of return of investment for new incentive models**



Source: authors

#### 4. Conclusion

The development of distributed generation directs the development of the power system in a new direction. Every EU member, including the Republic of Croatia, follows the development of the power system, i.e., they are introducing incentive models for the implementation of new renewable energy sources. The new Law on renewable energy sources is similar to European standards, namely the new incentive models allow producers of electric energy competition in the free market. The results of techno-economic analysis of three different systems reveals that application of photovoltaic systems is financially more efficient in the economy, while the analysis of the new incentive model indicates certain shortcomings of individual models, which will new regulations certainly have to correct.

#### REFERENCES

- C. Roncero-Clemente, E. Romero-Cadaval, V. M. Minambres, M. A. Guerrero-Martinez, J. Gallardo-Lozano (2013) *PV Array Emulator for Testing Commercial PV Inverters* Elektronika ir elektrotechnika, ISSN 1392-1215, Vol. 19, No. 10.
- EUROPEAN COMMISSION – Press Release Database: *Renewable energy in the EU*, Report available in [http://europa.eu/rapid/press-release\\_STAT-15-4582\\_en.htm](http://europa.eu/rapid/press-release_STAT-15-4582_en.htm) (accessed 24.March 2016.)
- HROTE – Croatian Energy Market Operator: *Annual report on the system to encourage the production of electricity from renewable energy sources and cogeneration in the Republic of Croatia for 2015t*, Report available in [http://files.hrote.hr/files/PDF/OIEiK/GI\\_2015\\_HROTE\\_OIEiK\\_2015\\_za\\_WEB\\_v2.pdf](http://files.hrote.hr/files/PDF/OIEiK/GI_2015_HROTE_OIEiK_2015_za_WEB_v2.pdf) (accessed 24 March 2016.)
- JOIN RESEARCH CENTRE –IET Institute for Energy and Transport: *PV Status Report 2014*, Report available in <http://iet.jrc.ec.europa.eu/remea/pv-status-report-2014>. (accessed 24 March 2016.)
- Knežević, G. (2013): *Optimal common offer on the electricity market system hydro and wind.*: Doctoral dissertation, Osijek, pp. 66
- PV STATUS REPORT 2014 – European Commission Joint Research Centre Institute for Energy and Transport (2014): *JRC science and policy report*, Report available in <http://iet.jrc.ec.europa.eu/remea/pv-status-report-2014> (accessed 4. April 2016.)
- Pelin, D. at all (2014): *Regional impact of different photovoltaic systems*, IDResearch Kft, Pécs
- REN21 – Renewable Energy Policy Networkfor the 21<sup>st</sup> Century (2015): *Renewables 2015 Global Status Report*, Report available in [www.ren21.net](http://www.ren21.net) (accessed 23 March 2016.)

**Dalibor Pudić, Ph.D.**

Croatian Energy Regulatory Agency  
Ulica Grada Vukovara 14, 10000 Zagreb  
Phone: +385 98 494 166  
E-mail address: dpudic@hera.hr

**Eraldo Banovac, Ph.D.**

E-mail address: eraldo.banovac@zg.t-com.hr

**Željko Požega, Ph.D.**

Faculty of Economics in Osijek  
Gajev trg 7, 31000 Osijek  
E-mail address: zpozega@efos.hr

## **APPLYING THE PRINCIPLES OF MANAGEMENT OF CREATIVE AND CULTURAL INDUSTRIES IN THE ENERGY SECTOR**

### **PRIMJENA NAČELA MENADŽMENTA KREATIVNIH I KULTURNIH INDUSTRIJA U ENERGETICI**

#### **ABSTRACT**

*Creative and cultural industries are becoming more and more important. Creative and cultural industries present a growing segment of the economy that encompasses a wide range of activities, such as architecture, electronic media, film, publishing, music, art, photography, heritage, advertising, design and computer games. Many countries use creative and cultural industries to stimulate economic development and to strengthen competitiveness. World trade in goods and services in the frame of creative and cultural industries has recorded a steady growth. The highest growth rates of creative and cultural industries were registered in developing countries, as opposed to the transition countries where growth rates were very low.*

*The Croatian Cluster Competitiveness of Creative and Cultural Industries was formed in 2013, based on the initiative of the Ministry of Economy of Croatia. Creative and cultural industries in Croatia were formed according to the principle of the Quadruple Helix model*

*– economy, public administration, academic research institutions and civil society. Creative and cultural industries are based on knowledge, ideas and skills that affect innovation and competitiveness by using new technologies.*

*During the last two decades, restructuring processes in connection with liberalization and privatization took place in the global energy sector, with the implementation of the policy of reducing greenhouse gas emissions, primarily by increasing energy efficiency and the share of renewables in electricity production. Modern energetics is faced with new challenges related to economic, social and environmental impacts on the sustainable quality of life. Nowadays, the principles of creative and cultural industries are used in all industry sectors, including the energy sector – which is of utmost importance for a society.*

*A research to determine the possibility of implementation of the principles of creative and cultural industries in the energy sector is conducted in this paper.*

**Key words:** *Creative and cultural industries, Energy sector, Competitiveness*



## SAŽETAK

*Kreativne i kulturne industrije dobivaju sve više na značaju. Riječ je o rastućem segmentu gospodarstva koji obuhvaća širok spektar djelatnosti kao što su: arhitektura, elektronički mediji, film, izdavaštvo, glazba, umjetnost, fotografija, baština, oglašavanje, dizajn i računalne igrice. Mnoge države koriste kreativne i kulturne industrije za poticanje ukupnog gospodarskog razvoja i jačanje konkurentnosti. Svjetska trgovina dobara i usluga u okviru kreativnih i kulturnih industrija bilježi stalni rast. Najveći rast kreativnih i kulturnih industrija ostvaren je u zemljama u razvoju, a tranzicijske zemlje ostvarile su vrlo mali rast.*

*Hrvatski klaster konkurentnosti kreativnih i kulturnih industrija osnovan je 2013. godine na inicijativu Ministarstva gospodarstva. Kreativne i kulturne industrije strukturirane su u Republici Hrvatskoj po konceptu četverostruke zavojnice – gospodarstvo, javna uprava, znanstveno-istraživački i civilni sektor. Kreativne i kulturne industrije temelje se na znanju, idejama i vještinama koje primjenom novih tehnologija utječu na inovativnost i konkurentnost.*

*Tijekom zadnja dva desetljeća u svjetskoj energetici odvijali su se procesi restrukturiranja, privatizacije i liberalizacije, uz provedbu politike smanjivanja emisija stakleničkih plinova, prvenstveno povećanjem energetske učinkovitosti i kontinuiranim rastom udjela obnovljivih izvora u ukupnoj proizvodnji energije. Suvremena energetika suočava se s novim izazovima povezanima s ekonomskim, sociološkim i okolišnim utjecajima na održivu kvalitetu života. Načela kreativnih i kulturnih industrija nalaze svoju primjenu u svim gospodarskim sektorima, pa tako i u energetskom koji je od strateškog značaja za funkcioniranje društva.*

*U radu je provedeno istraživanje s ciljem utvrđivanja mogućnosti implementacije načela kreativnih i kulturnih industrija u energetici.*

**Ključne riječi:** *Kreativne i kulturne industrije, Energetski sektor, Konkurentnost*

### 1. Introduction

Over the last two decades, creative and cultural industries have become the target of public policies and academic researches due to their role in promotion of local and regional economic development. There are a number of studies, researches, scientific and professional papers that promote the positive effects of creativity on economic development. Creative and cultural industries include various activities, such as architecture, electronic media, film, publishing, music, art, photography, heritage, advertising, design and computer games. Creative and cultural industries are based on knowledge and skills, the capacity of transforming knowledge into new knowledge and ideas that affect innovations and implementing solutions. Some of the aforementioned activities are very old, but they were all collected in one category in 1998. According to Tomczak and Stachowiak (2015), the British Department for Culture, Media and Sport in its Creative Industries Mapping Document described creative industries as activities which have their origin in individual creativity, skill and talent, and which have a potential for wealth and job creation through the generation and exploitation of intellectual property (DCMS, 1998). According to Shenn *et al.* (2012), creative industry is based on knowledge and creativity. It has become the leading industry of developed countries and cities.

Diversity and creativity are basic drivers of innovations and regional and national growth (Florida, 2003). According to the document titled "Creative Economy Report 2013" (United Nations/UNDP/UNESCO), world trade of creative goods and services totalled a record US\$ 624 billion in 2011, which is more than double in relation to 2002. Furthermore, the average annual growth rate during that period was 8.8%. It is interesting that the growth in developing-country exports of creative goods was stronger – averaging 12.1% annually over the same period.

The aim of cultural and creative industries is to stimulate smart and sustainable development that includes the use of renewable energy sources, emission reduction of greenhouse gases and sufficient

production. According to UNEP-SBCI (2016), the building sector uses about 40% of global energy. Buildings are also the largest contributor to global greenhouse gas emissions. Therefore, there is a huge potential for energy savings, reduction of CO<sub>2</sub> emissions and the use of renewable energy sources. The request for greener buildings results in architectural solutions and services that encourage creativity in searching functional, sustainable and low-cost options. Furthermore, new solutions for low-energy buildings, passive houses and zero-energy buildings are being created. Energy efficiency is crucial to the development of new architectural solutions in the construction of low energy and passive buildings.

Furthermore, the results of creative and cultural industries are:

- small-scale distributed power generation located close to where electricity is used,
- non-contact electric power transmission,
- delivering surplus energy on demand,
- new urban planning and design solutions related to distribution, consumption, savings and sustainable development.

In the last few years there has been a growing interest in the concept of smart cities. It should be pointed out that there is no sustainable city without a smart city. A smart city is a sustainable urban development model that tends to respond to the challenge of sustainable development in the case of increased migration of population in urban areas. The key elements of a smart city are: wise and rational use of energy, significant decrease of CO<sub>2</sub> emissions, decrease in the amount of waste and implementation of green IT technology. All these affect the adaptation of infrastructure and architecture in the development of a smart city. During the development of a smart city, it is important to monitor the quality of services to optimize all processes with the aim of cost minimization. A self-sustaining supply of electricity, heating and cooling is a significant precondition for a smart city, for which an advanced smart grid with optimized demand-response consumption is required.

At this point, it is important to emphasize that various issues were researched related to creative and cultural industries. For example, Borseková *et al.* (2015) explored the principles of nostalgia vs. modernity from the perspective of creative and cultural industries.

## **2. Creative and cultural industries**

British writer and media manager John Howkins popularized the term "creative economy" in 2001. He applied this term to 15 industries, ranging from art to science and technology. Creative economy refers to cultural goods and services, toys, games and the entire research and development. The term "cultural industries" refers to earlier work in the Frankfurt School in the 1930s and 1940s. The term "creative industries" was first used in Australia in the early 1990s. It is applied to a very broad set of goods and services produced by cultural industries and those depend on innovation including software development and researches.

The creative industry is one of the fastest growing industries in the world with regard to revenue, job creation and growth rate of export. Human creativity and innovation are key drivers for the development of economy and society. Encouraging creative economy results in the development of society and improves quality of life. Creative economy occurs at the local level based on local needs. Accordingly, it addresses the needs of the local community. Generally speaking, development programs based on creativity and innovation can generate benefits for the target groups, as well as for society as a whole. However, development programs should take cultural premises into account, and development should be focused on people. In order to mobilize people, we need to understand and accept their culture. According to Florida (2000), the analysis of regions with more than 700,000 people highlights the striking correlation between diversity, talent, and high-tech industry.

It has been found that there are places in the world where people have been integrated into society easily regardless of race, nationality or appearance. Pleading openness and diversity is necessary for progress. The growth and development of large cities result from their ability to take advantage of diversity, adopt newcomers and turn their energy and ideas to innovation and wealth. Silicon Valley is the world's most impressive high-tech center, which represents an educative story of innovations in technology. In fact, a lot of residents in Silicon Valley were born abroad. By observing the example of Silicon Valley, it can be concluded that important factors of technological success are: innovation, technology, talent and tolerance.

The creative society is extraordinarily in comparison to the consumer society, although they are inseparable from each other. The creative society is usually a rich society, although it focuses on creation rather than wealth. Furthermore, an extraordinarily creative worker forms his environment, and does not consume his wealth completely. Thus, the wealth of a creative worker is not measured in the amount of things that he consumes, but rather in the satisfaction of achieving creative aspirations. Therefore, the creative society concept presumes that happiness should be created, not consumed. According to Baltrėnas *et al.* (2015), happiness is a category of a wise, moral and creative society.

At this point, it should be emphasized that a new social structure of creativity encompasses new systems of creative and innovative management and entrepreneurship, new models of production of goods and services, and the creation of such a cultural environment that is suitable for the development of society based on creativity and innovations. In addition, creative society stimulates the creation of "a new creative class of people", i.e. creative professionals as well as creative and responsible management. This concept is of utmost importance for building a society of knowledge, actually it is more important that providing opportunities for success of an individual, group, province or even a country.

In this paper, we put forward the claim that a self-sustainable civilization could be achieved by protecting natural resources and environmental carrying. Bearing in mind the well-being of future generations, a new social structure of creativity must create such a social environment in which people protect natural resources efficiently.

### **3. The role of energy and environmental protection in relation to creative and cultural industries**

Creative and cultural industries, security of energy supply, optimal usage of energy and environment protection are very important for sustainable development. The more developed a society, the more energy it consumes. Fossil energy sources (including coal, oil and natural gas) are limited. The use of fossil energy has a negative impact on the environment. The combustion of fossil fuels generates carbon dioxide that affects climate with huge consequences (dryness, melting glaciers that jeopardize the drinking water supply, and raising the sea levels that may even cause the disappearance of low islands). The influence of energy transformations on global warming is of crucial importance for the survival of our civilization. In this sense, energy sustainability is a very significant issue.

Over the past few years, considerable attention has been paid to the fact that climate change and ecosystems are interrelated. Progressive or sudden climate change can influence human health and society. Uncontrolled global warming can result in large-scale losses of agricultural crops, intense flooding, powerful rain storms, droughts, sea level rise, and even mass extinction of plants and animals. Climate change can also stimulate migration. Some great civilizations collapsed because of past abrupt climate changes. There was an extensive drought around 2,000 BC in ancient Egypt. The Nile had no longer flooded the areas along its coastline and the harvests were very small with the

consequence of no sustainable system of collecting taxes. The final result was the impossibility to finance the state apparatus and to support the regime.

The challenges of preventing global warming are linked to the reduction of greenhouse gas emissions, rational use of energy and production from renewable sources. Many researches related to energy and environmental protection have been conducted. Furthermore, many innovations have been implemented in the field of energy.

New power plants, such as wind plants, solar plants, hydro power plants and incinerators affect the urban vision of the environment, but also the flora and fauna in the surroundings. This is a great challenge, which stimulates creative urban solutions. Furthermore, some parts of the world are extremely poor with fossil fuels. For this reason, some countries are highly dependent on oil imports, which is a major risk for their long-term development. Europe is a typical example of a territory with poor energy resources, but with high consumption.

A sustainable energy system also encompasses the smart thermal grid, i.e. the implementation of innovative and creative solutions in district heating. The Fourth Generation District Heating is an advanced district heating system, in which heat is produced from renewable energy sources. The distribution network is based on low-temperature heat energy in order to minimize losses, but also to exploit the heat from places where it is not needed. The heated water (surplus heat) goes into the tank where it is being accumulated.

Solutions for a future decarbonized world are based on a new wave of innovations because of which we need to change the way we live. In fact, people must discard their habit of overspending. Since it is necessary to use energy surplus and renewable energy to the greatest extent possible, different creative solutions have been found. The invention of efficient light emitting diode lamps (LED lamps) is an example of creativity in the energy sector. The installation of LED lamps instead of halogen lamps that consume up to 10 times more energy represents an important change in lighting. The average lifespan of LED lamps is 10-15 years of work, which is almost 100 times longer than in the case of traditional incandescent light bulb usage. LED lamps do not contain hazardous substances. LED lighting influenced not only the decrease of energy consumption, but also urban solutions. LED lighting provides a new perception of the transition from a period of traditional bulbs in the period of digital and creative lighting. LED lighting becomes an integral part of the design of outdoor and exterior spaces. LED technology highlights various architectural solutions with a strong light source.

It should be emphasized that the price of energy produced from renewable sources continuously falls. Furthermore, the open energy market diminishes the need for each country to have enough power plants ready to cover its peak demand. Generation companies become more innovative and competitive to sell the produced electricity in the open market. Smart network enables the supply and demand of energy in real time, including the price of energy depending on market needs. Distributed energy production has led to the production facilities of smaller dimensions at multiple locations, which facilitate innovations as well as participation of creative individuals and companies in the energy market. The effects of local employment are also important. However, regulation of energy activities remains a subject of interest. According to Banovac and Štrifof (2005), national regulatory authorities introduce more and more complex methods to achieve the ultimate goals of economic regulation: efficiency and productivity improvement.

Moreover, it is important to recognize the problem of increased air traffic that affects the amount of total fuel consumption. Nevertheless, solar planes capable of daily and nightly flying have been produced. More new innovations in this area will come in the near future. Furthermore, the construction of the first road with a modular system of solar panels is in an early phase. This could affect new urban and architectural solutions. The solar road will generate electricity using renewable

energy with the aim of charging electric wheels. The panels will be equipped with microprocessors to enable the road's communication with another road. The smart road will use a traffic congestion system to redirect vehicles towards roads with smaller traffic jams. Finally, the smart road will deliver surplus electricity to a number of grid-connected consumers.

Besides the aforementioned revolutionary projects, many architectural solutions for production facilities are successfully incorporated into the social environment. For example, some oil wells are incorporated into city centers in a way that they are not visible there. Similarly, the wind turbines for generation of electricity are installed inside the Eiffel Tower.

#### **4. Creative and cultural industries in the Republic of Croatia**

According to data on cultural import and export in the period 2000-2005, a noticeable trend of growth of cultural and creative industries in Croatia was recorded. The share of cultural and creative industries in total gross value added had increased from 12.1% in 2000 to 13.3% in 2004. However, Jelinčić and Žuvela (2013) pointed out that cultural and creative industries in Croatia and Zagreb are still insufficiently recognized in public policies, although in them lies a concrete development potential.

The Croatian Cluster Competitiveness of Creative and Cultural Industries was formed in 2013 based on the initiative of the Ministry of Economy of Croatia. Creative and cultural industries in Croatia were formed according to the principle of the Quadruple Helix model – economy, public administration, academic research institutions and civil society. The cluster is involved in the development of documents relevant to project financing through grants from structural funds. The cluster consists of 64 members (23 – industry, 11 – public administration, 8 – scientific research sector and 22 – civil society). The cluster is connected to all sectors for a quick and effective implementation in the economic and social sphere. Based on the initiative of the private sector, the Croatian Employers' Association (CEA) founded its coordination of creative and cultural industries in June 2014, for the purpose of promoting and improving creative and cultural industries.

According to the document titled "Creative industries: the creative processes in the development of companies and innovation – the growth potential of the company and its profit", the share of creative and cultural sector in the gross domestic product of the Republic of Croatia is 2.3%, which is higher than the share of metal industry (1.7%), chemical industry (1.1%), pharmaceutical industry (1%), wood industry (0.8%) and textile industry (0.7%). Furthermore, the number of employees in the creative economy is 124,304. Although overall employment in Croatia fell by 9.6% between 2012 and 2014, employment has declined only 0.5% in the Croatian creative and cultural industries.

It should be emphasized that creativity in the field of energy began to develop later in Croatia compared to highly developed countries. Good examples of creativity can be seen in the automotive industry. DOK-ING from Zagreb designed and manufactured the urban electric car. RIMAC AUTOMOBILI from Sveta Nedelja is a manufacturing company of fast luxury electric cars, which has achieved international success with a number of innovative solutions.

Furthermore, Zadar is a city in Croatia (situated on the coast of the Adriatic Sea) that combines creative and cultural industries with energy. Zadar is known worldwide due to two implemented projects: the Greeting to the Sun and the Sea Organ, which are both tourist attractions. The installation "Greeting to the Sun" consists of a large number of multi-layered glass solar panels arranged in a circle. The solar panels convert sunlight into electricity. The produced electricity is used primarily to power the light display, but a portion is delivered to the distribution power network. Besides the criterion of energy profitability, the profitability of this investment will be determined by taking into account the large number of tourists motivated to visit Zadar. In fact, the

Sun is a symbol in many cultures. For example, the Sun has long been considered a symbol of prosperity and health in India.

The Sea Organ is an architectural object that connects architecture, music and energy. It uses ocean waves to make music. The Croatian architect Nikola Bašić created a nature-based instrument, a set of organ pipes that make music as waves lap at the coastline. He won the 2006 European Prize for Urban Public Space for the installation "The Sea Organ". This installation regulates the relationship between the user and urban space. It is in correlation with the natural landscape, and serves as a trigger for the transformation of an inactive and marginal space of the historic center of Zadar in the place of daily meetings, socialization and mediation (Kalčić, 2011).

Another key point is the role of management. The principles of management of creative and cultural industries in the energy sector encompass the following:

- promoting creativity, innovations and entrepreneurial initiatives,
- reconsidering existing solutions,
- introducing more advanced solutions and possibilities,
- redesigning the organization of energy companies with the aim of reducing costs,
- offering new innovative services,
- increasing the satisfaction of customers.

The consideration of rationalization of the electric power distribution system through the consolidation of the distribution areas is an example of the management initiative in energy, which leads to better key performance indicators (Pudić and Banovac, 2015). The next example is control of various purchased components by using statistical sampling procedures that reduce the costs of technical control and ensure high reliability and quality of parts, which are crucial for the safe operation of the power system. In fact, Lot Acceptance Sampling Plans can be used for acceptance of large lots of different components purchased and installed in the electric-power industry during maintenance or overhaul (Banovac and Kozak, 2008). This is especially important because maintenance and overhaul are important activities in electricity generation that is a part of a very complex system – the electric–power industry (Banovac and Kuzle, 2009).

Over the years, the tools and techniques used by management have evolved with the aim of adapting to industrial development. Hsueh *et al.* (2012) used fuzzy logic in artificial intelligence to process the imprecise and vague linguistic meanings in decision making and developed a multi-criteria evaluation model for developmental effectiveness in creative and cultural industries.

In addition, it should be emphasized that the Croatian Government adopted on 30 March 2016 the proposal for Smart specialization strategies of the Republic of Croatia for the period 2016-2020 and the Action plan for the implementation of smart specialization strategies of the Republic of Croatia for the period 2016-2017. Smart specialization is a new concept of innovation policy designed in order to promote effective public investment in research and development, and to encourage innovation in order to achieve economic growth and prosperity. This strategy is a prerequisite for the withdrawal of funds from European structural and investment funds, in order to focus resources on the promotion of scientific excellence and strengthening the competitiveness of the Croatian economy through research, technological development and innovation. In a wider context, positive implications could be expected in new industries or in existing industries that merge into new creative industries (such as mobile services or industry of eco-innovations), with launching high-technology products, new business models, innovative service concepts or major social challenges (such as sustainability requirements).

## 5. Conclusion

In conclusion, it is evident that creative people affect their environment, but the environment affects them too. Although the effects of creative and cultural industries and energy are observed in literature separately, these industrial branches are closely related. By means of examples discussed in this paper, it is shown how innovation in the energy sector can be linked to creative and cultural industries and how it affects local and regional development. There are numerous examples of architectural integration of energy facilities in the environment as well as creative solutions that improve quality of life.

This paper indicates that rational and innovative use of resources, the use of renewable energy sources and surpluses of energy are of crucial importance for ensuring a sustainable society.

The creative efforts of experts and management should be focused on the effective solutions of distributed energy generation, because almost every location has a different energy potential. The municipalities should take into account the need for education of the local population because there is often a lack of understanding of development opportunities for local communities. For example, some areas are richer in biomass, others in geothermal energy. Some regions have a lot of sunny days, some are exposed to winds, waves and tides. Taking into account the needs of local communities, creative individuals can trigger a large number of ideas and new solutions to improve the quality of life.

Several other questions remain to be addressed. For example, further research in this area could estimate the correlation between creative and cultural industries and the energy sector.

## REFERENCES

- Baltrėnas, P., Baltrėnaitė, E., Kačerauskas, T. (2015): *Social Environment of Creativity*, Filosofija. Sociologija, T. 26. Nr. 1, pp. 46-54.
- Banovac, E., Štritof, I. (2005): *Analysis of Applicable Methods of Incentive Regulation in the Field of Distribution of Electricity*, WSEAS Transactions on Systems, Vol. 4, No. 8, pp. 1224-1232.
- Banovac, E., Kozak, D. (2008): *An Analytic Review of the Characteristics of the Lot Acceptance Sampling Plans Used for Acceptance of Large Lots*, International Review of Electrical Engineering (I.R.E.E.), Vol. 3, No. 6, pp. 1070-1076.
- Banovac, E., Kuzle, I. (2009): *Applicability of the LASPs in the Electric-Power Industry*, in: Proceedings of the International IEEE Conference EUROCON 2009, Saint Petersburg, Russia, May 18-23, 2009, pp. 1152-1157.
- Borseková, K., Cole, D., Petříková, K., Vaňová, A. (2015): *Nostalgic Sentiment and Cultural and Creative Industries in Regional Development: a Slovak Case Study*, Quaestiones Geographicae, Vol. 34, No. 2, Bogucki Wydawnictwo Naukowe, Poznań, pp. 53-63.
- Florida, R. (2000): *Technology, Talent, and Tolerance*, pp. 1-3  
<http://creativeclass.com/rfcgdb/articles/14%20Technology%20Talent%20and%20Tolerance.pdf>
- Florida, R. (2003): *Cities and the Creative Class*, City & Community 2, pp. 3-19.
- Hsueh Sung-Lin, Hsu Keng-Hsiu, Liu Chiung-Ying (2012): *A Multi-Criteria Evaluation Model for Developmental Effectiveness in Cultural and Creative Industries*. 2012 International Workshop on Information and Electronics Engineering (IWIEE), Procedia Engineering 29, pp. 1755-1761.

Jelinčić, D. A., Žuvela, A. (2013.): *Što nas čini različitima? Kreativni Zagreb na putu prema kreativnoj Europi*, Medijske studije, Vol. 4, No. 7, pp. 75-92.

Kalčić, S. (2011.), *Odnos suvremene likovne umjetnosti i arhitekture u radu Ivane Franke*, Prostor, 2[42] 19[2011], pp. 478-489.

Pudić, D., Banovac, E. (2015): *Analysis of Some Important Indicators of the Croatian Electric Power Distribution System*, in: Proceedings of the 4<sup>th</sup> International Scientific Symposium 'Economy of Eastern Croatia – Vision and Growth', Osijek, Croatia, May 21-23, 2015, pp. 454-462.

Shenn, L., Li, Z., Zeng, J., Li, J. (2012): *Study on Semantic Structure of Cultural and Creative Industry Park Based on Internet Literature*, Frontiers of Architectural Research (2012) 1, pp. 295-304.

Tomczak, P., Stachowiak, K. (2015): *Location Patterns and Location Factors in the Cultural and Creative Industries*, Quaestiones Geographicae, Vol. 34, No. 2, Bogucki Wydawnictwo Naukowe, Poznań, pp. 7-27.

*Creative Economy Report (2013), Special Report*; United Nations Development Programme (UNDP) and United Nations Educational, Scientific and Cultural Organization (UNESCO).

DCMS, 1998. *Creative industries mapping document*. Department for Culture, Media and Sport, London.

<https://vlada.gov.hr/vijesti/ministar-panenic-strategijom-pametne-specijalizacije-otkljucajavu-nam-se-sredstva-eu-u-iznosu-od-664-milijuna-eura/18687>, (accessed 30 March 2016)

Kreativne industrije: kreativni procesi u razvoju tvrtki i inovacija - potencijal rasta tvrtke i njene dobiti (Creative industries: the creative processes in the development of companies and innovation – the growth potential of the company and its profit), [http://www.mint.hr/UserDocsImages/2\\_Kreat\\_ind.pdf](http://www.mint.hr/UserDocsImages/2_Kreat_ind.pdf), (accessed 2 April 2016)

The United Nation's Environment Programme's Sustainable Building and Climate Initiative (UNEP-SBCI), <http://www.unep.org/sbci/AboutSBCI/Background.asp>, (accessed 2 April 2016)



**Danijela Slipčević, mag.oec.**

Agencija za razvoj i investicije grada Vinkovaca VIA d.o.o.

Vatrogasna 5, Vinkovci

Telefon: +385 9710 436

E-mail: danijela.slipcevic@viavinkovci.hr

**mr.sc. Renata Petrović**

Trgovačka i komercijalna škola *Davor Milas*

Gundulićeva 38, Osijek

Telefon: +385 98 813 898

E-mail: rencipet@gmail.com

**prof. dr. sc. Marijana Zekić Sušac**

**redoviti profesor**

Sveučilište J.J.Strossmayera u Osijeku

Ekonomskifakultet u Osijeku

Trg Lj. Gaja 7, Osijek

Phone: +385 31 22 44 56

E-mail: marijana@efos.hr

**SUPPORT INSTRUMENTS ON THE MARKET OF PHOTOVOLTAIC  
POWER PLANTS AS DEVELOPMENT POTENTIAL OF EASTERN  
CROATIA**

**POTPORNI INSTRUMENTI NA TRŽIŠTU FOTONAPONSKIH  
ELEKTRANA KAO POTENCIJAL RAZVOJA ISTOČNE HRVATSKE**

**ABSTRACT**

*Renewable energy sources (RES) have experienced sustained growth in the development and implementation in the past decade. Despite the good insolation, Croatia has so far neglected energy from the sun, although there is a great potential on its entire territory. The purpose of the research is to identify the key challenges faced by companies involved in the production of electricity from photovoltaic (solar) power plants in the Republic of Croatia, and possible legislative changes and the implementation of support instruments on the market of photovoltaic power plants in the Republic of Croatia, with emphasis on Eastern Croatia. The aim of the research is to identify the recommendations for necessary changes in legislation and the implementation of support instruments on the market of photovoltaic power plants in the Republic of Croatia. The research analyses data on usage of renewable energy resources in Croatia and Europe and compares examples of companies from Eastern Croatia involved in the production of electricity from photovoltaic systems. Interviews will be conducted with companies, which have the status of eligible electricity producer, and another interview with a company specialized in the complete administrative process of obtaining documents for acquiring the status of eligible electricity producer from RES. The research methodology will be based on the secondary, desk research, on the statements of relevant government officials and interviews with company owners. The paper can be useful to researchers in the area of renewable energy resources, project applicants, experts, as well as creators of development strategies and policies.*

**Keywords:** photovoltaic power plant, renewable energy, legislation, supporting instruments

## SAŽETAK

*U posljednjih desetak godina obnovljivi izvori energije (OIE) doživjeli su veliki zamah u razvoju i implementaciji. Unatoč dobroj insolaciji, Hrvatska je do sada poprilično zanemarivala energiju iz Sunca iako ima veliki potencijal na cijelom svom području. Svrha istraživanja je prepoznati ključne izazove s kojima se suočavaju poduzeća koja se bave proizvodnjom električne energije iz fotonaponskih (solarnih) elektrana u RH te moguće promjene u zakonodavstvu i primjeni potpornih instrumenata na tržištu fotonaponskih elektrana u RH s naglaskom na istočnu Hrvatsku. Cilj je identificirati preporuke za nužne promjene u zakonodavstvu i za veću primjenu potpornih instrumenata na tržištu fotonaponskih elektrana u RH. Istraživanjem će se analizirati raspoloživi podaci o uporabi obnovljivih izvora energije u Hrvatskoj i Europi, te usporediti primjeri poduzeća s područja istočne Hrvatske koji se bave proizvodnjom električne energije iz fotonaponskih sustava. Provest će se intervjui s poduzećima koja imaju status povlaštenog proizvođača električne energije te intervju s poduzećem specijaliziranim za administrativni postupak ishođenja dokumenata za stjecanje statusa povlaštenog proizvođača električne energije iz OIE-a. Metodologija istraživanja temeljit će se na sekundarnom, desk istraživanju, izjavama mjerodavnih vladinih dužnosnika, te intervjua s vlasnicima poduzeća. Rad može biti koristan istraživačima u području obnovljivih izvora energije, prijaviteljima projekata i stručnjacima, kao i donositeljima strategija i politika razvoja.*

**Ključne riječi:** *fotonaponske elektrane, obnovljivi izvori energije, zakonodavstvo, potporni instrumenti.*

### 1. Introduction

In 2001 a reform of Republic of Croatia's energy system has started, as a part of Euro-integration processes. The main aim is to adapt the legal and institutional framework in Croatia to EU demands, within the limits of a specific national settlement (Raguzin and Tomšić, 2007). The Energy Law (NN, no. 120/12<sup>1</sup>) defines the Energy Development Strategy as a fundamental act which proclaims energy policy and plans energy development for a period of 10 years. Based on this, the Croatian Parliament has up to now passed two Energy Development Strategies. The first Energy Development Strategy (NN, no. 38/02) set the goals and measures for the period till 2010. This Strategy has been revised in 2009, and in the same year Croatian Parliament passes the second Energy Development Strategy (NN, no. 130/09) which applies to a period till 2020, until when Croatia's goals should be aligned with goals and timeframes of the EU strategic documents. Since the Republic of Croatia faces a great instability of energy prices on the world market, the basic goal is to give its citizens a confident, high-quality, accessible and sufficient energy supply. By adoption of the Energy Development Strategy, Republic of Croatia assumed the obligations from the "20-20-20" package as one of the strategic national goals. The goals of this unified policy aligned with the European Union goals set in the "20-20-20" package are the following: 20% cut in greenhouse gas emissions by 2020 (from 1990 levels), that is, 30% cut in greenhouse gas emissions if the package is accepted by developing countries, 20% of renewable energy sources in gross direct consumption in 2020<sup>2</sup>, 10% of renewable energy sources by 2020 in all aspects of transport, reduction in total energy consumption by 2020.

---

<sup>1</sup> According to the article 89 of the Constitution, Narodne novine is the official journal of the Republic of Croatia and before coming into effect, all laws, ordinances, regulations, orders and other acts and provisions are published in Narodne novine.

<sup>2</sup> Calculation of the goal 20% of renewable energy sources in gross direct consumption in 2020 consists of two parts: 5.5% is added to renewable energy sources share from 2005, while the rest is based on the remainder of the total potential of renewable energy sources according to energy consumption per capita pondered by the GDP per capita index, related to the European Union average. These two elements are summed in order to get the total share of RES

This paper primarily analyses the renewable energy sources market in the European Union and Croatia, and secondly, emphasizes the implementation of photovoltaic (solar) power plants in Croatia. The purpose of this paper is to identify the key challenges faced by involved in the production of electricity from photovoltaic power plants in Croatia and possible legislative changes and the implementation of support instruments on the market of photovoltaic power plants in the Republic of Croatia, with emphasis on Eastern Croatia. Analyses have been conducted based on secondary data and interviews with companies that have a status of eligible producers of electricity and companies specialized in administrative procedures for obtaining documents to acquire a status of an eligible producer of electricity from renewable energy sources.

## 2. Renewable energy sources market in the EU and Croatia

According to the Energy Development Strategy of the Republic of Croatia (NN, no. 130/09) the set goal of 20% of renewable energy sources in gross direct consumption was supposed to be achieved by 2020, and according to the latest EUROSTAT data<sup>3</sup> this goal was already surpassed in 2004. The calculation methodology is done by EUROSTAT using the input data prepared by the Energy Institute Hrvoje Požar (EIHP) in coordination with the National Bureau of Statistics (DZS), and which have been corrected (that is, altered). Namely, according to data on real energy consumption<sup>4</sup> it has been concluded that the population of Croatia is using far more biomass (firewood) for heating than it was estimated by EIHP according to data they were given by Hrvatske šume (Croatian forests). The second reason is turning on the second generator in the hydropower plant Dubrovnik. Due to aforementioned reasons, the renewable energy sources share in gross direct energy consumption in EUROSTAT report for 2014 (table 1) is 26.1% in average for the period of 2011-2012, which is a significant increase (caused by changing the input data) in relation to report for 2013<sup>5</sup> where the average consumption for the same period (2011-2012) was only 16.1%.

---

in gross direct energy consumption in 2020. For the Republic of Croatia this means:  $12.8 + 5.5 + 1.8 = 20\%$ .

[http://www.mingo.hr/userdocsimages/energetika/NAP\\_OIE.pdf](http://www.mingo.hr/userdocsimages/energetika/NAP_OIE.pdf) (accessed on 14<sup>th</sup> March 2016)

<sup>3</sup> Eurostat, **Shares 2014.**, <http://ec.europa.eu/eurostat/web/energy/data/shares> (accessed on 15<sup>th</sup> March 2016)

<sup>4</sup> Državni zavod za statistiku (National Bureau of Statistics). **Podaci o energetskej učinkovitosti u kućanstvima i uslugama u 2012.** (in Zagreb, 2015):

[http://www.dzs.hr/Hrv\\_Eng/Other/Podaci%20o%20energetskej%20ucinkovitosti%20u%20kucanstvima%20i%20uslugama%20u%202012.pdf](http://www.dzs.hr/Hrv_Eng/Other/Podaci%20o%20energetskej%20ucinkovitosti%20u%20kucanstvima%20i%20uslugama%20u%202012.pdf), tables 1 and 2, pp. 19-21 (accessed and downloaded on: 15<sup>th</sup> March 2016)

<sup>5</sup> EUROSTAT, **Shares 2013 results**, <http://ec.europa.eu/eurostat/web/energy/data/shares> (accessed on: 15<sup>th</sup> March 2016)

**Table 1** EUROSTAT report on overall share of renewable energy sources in total gross direct consumption of energy for 2014

Overall share of energy from renewable sources (Directive 2009/28/EC)																				
	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2011-2012 average	2013-2014 average	S <sub>avg</sub>	indicative trajectory 2011-2012	2013-2014	2015-2016	2017-2018	2020 target	
EU28	8.2%	9.0%	9.2%	10.4%	11.0%	12.4%	12.3%	13.1%	14.3%	15.0%	16.0%	13.2%	15.5%						20%	EU28
BE Belgium	1.9%	2.3%	2.7%	3.4%	3.8%	5.1%	5.5%	6.2%	7.2%	7.5%	8.0%	6.7%	7.8%	2.2%	4.4%	5.4%	7.1%	8.2%	13%	BE
BG Bulgaria	9.4%	9.4%	9.6%	9.2%	10.6%	12.1%	14.1%	14.3%	16.0%	18.0%	18.0%	15.2%	18.5%	9.4%	10.7%	11.4%	12.4%	13.7%	18.0%	BG
CZ Czech Republic	5.9%	6.0%	6.4%	7.4%	7.0%	8.0%	9.5%	9.5%	11.4%	12.4%	13.4%	10.5%	12.9%	0.1%	7.5%	8.2%	9.2%	10.6%	13%	CZ
DK Denmark	14.9%	16.0%	16.4%	17.8%	18.6%	20.0%	22.1%	23.5%	25.0%	27.3%	29.2%	24.0%	28.2%	17.0%	19.0%	20.9%	22.9%	25.5%	30%	DK
DE Germany	5.8%	6.7%	7.7%	9.1%	8.0%	9.9%	11.4%	11.4%	12.1%	12.4%	13.8%	11.8%	13.1%	5.8%	8.2%	9.5%	11.3%	13.7%	18%	DE
EE Estonia	18.4%	17.5%	16.1%	17.1%	18.9%	23.0%	24.0%	25.5%	25.8%	25.0%	26.5%	25.7%	26.0%	18.0%	19.4%	20.1%	21.2%	22.6%	25%	EE
IE Ireland	2.4%	2.9%	3.1%	3.6%	4.1%	5.1%	5.0%	6.0%	7.1%	7.7%	8.6%	6.9%	8.2%	3.1%	5.7%	7.0%	8.9%	11.5%	16%	IE
EL Greece	0.9%	7.0%	7.2%	8.2%	8.0%	8.9%	9.8%	10.9%	13.4%	15.0%	15.3%	12.2%	15.2%	6.9%	9.1%	10.2%	11.9%	14.1%	18%	EL
ES Spain	8.3%	8.4%	9.2%	7.9%	10.8%	13.0%	13.8%	13.2%	14.3%	15.3%	16.2%	13.8%	15.8%	8.7%	11.0%	12.1%	13.8%	16.0%	20%	ES
FR France	9.4%	9.6%	9.2%	10.2%	11.1%	12.1%	12.0%	11.1%	12.4%	14.0%	14.3%	12.3%	14.2%	10.3%	12.8%	14.1%	16.0%	18.0%	23%	FR
HR Croatia	23.5%	23.8%	22.7%	22.2%	22.0%	23.6%	25.1%	25.4%	26.8%	28.1%	27.9%	26.1%	28.0%	12.6%	14.1%	14.8%	15.9%	17.4%	20%	HR
IT Italy	0.3%	7.5%	8.4%	9.8%	11.5%	12.8%	13.0%	12.9%	15.4%	17.1%	17.1%	14.2%	16.9%	5.2%	7.6%	8.7%	10.5%	12.9%	17%	IT
CY Cyprus	3.1%	3.1%	3.3%	4.0%	5.1%	5.0%	6.0%	6.0%	6.9%	8.1%	9.0%	6.4%	8.5%	2.9%	4.9%	5.9%	7.4%	8.9%	13%	CY
LV Latvia	32.8%	32.3%	31.1%	29.6%	29.8%	34.3%	30.4%	33.5%	35.7%	37.1%	38.7%	34.6%	37.9%	32.6%	34.1%	34.8%	35.9%	37.4%	40%	LV
LT Lithuania	17.2%	17.0%	17.0%	16.7%	18.0%	20.0%	19.8%	20.2%	21.7%	23.0%	23.9%	21.0%	23.4%	15.0%	16.0%	17.4%	18.6%	20.2%	23%	LT
LU Luxembourg	0.9%	1.4%	1.6%	2.7%	2.8%	2.9%	2.9%	2.9%	3.1%	3.6%	4.5%	3.0%	4.1%	0.9%	2.9%	3.9%	5.4%	7.5%	11%	LU
HU Hungary	4.4%	4.5%	5.1%	5.9%	6.5%	8.0%	8.6%	9.1%	9.6%	9.5%	9.5%	9.3%	9.5%	4.3%	6.0%	6.9%	8.2%	10.0%	13%	HU
MT Malta	0.1%	0.2%	0.2%	0.2%	0.2%	0.2%	1.1%	1.9%	2.9%	3.7%	4.7%	2.4%	4.2%	0.3%	2.0%	3.0%	4.5%	6.5%	10%	MT
NL Netherlands	2.1%	2.5%	2.8%	3.3%	3.6%	4.3%	3.9%	4.5%	4.7%	4.8%	6.5%	4.6%	6.2%	2.4%	4.7%	5.9%	7.5%	9.9%	14%	NL
AT Austria	23.3%	23.3%	25.3%	27.3%	28.2%	30.2%	30.6%	30.8%	31.6%	32.3%	33.1%	31.2%	32.7%	23.3%	26.4%	26.5%	28.1%	31.0%	34%	AT
PL Poland	0.9%	0.9%	0.9%	0.9%	7.7%	8.7%	9.2%	10.3%	10.9%	11.3%	11.4%	10.6%	11.4%	7.2%	8.8%	9.5%	10.7%	12.3%	15%	PL
PT Portugal	19.2%	19.5%	20.9%	21.9%	23.0%	24.4%	24.2%	24.7%	25.0%	25.7%	27.0%	24.5%	26.3%	20.5%	22.6%	22.7%	25.2%	27.3%	31%	PT
RO Romania	17.0%	17.6%	17.1%	18.3%	20.6%	22.7%	23.4%	21.4%	22.8%	23.9%	24.9%	22.1%	24.4%	17.8%	19.0%	19.7%	20.6%	21.8%	24%	RO
SI Slovenia	16.1%	16.0%	15.6%	15.9%	15.0%	20.0%	20.6%	20.2%	20.9%	22.5%	21.9%	20.6%	22.2%	16.0%	17.8%	18.7%	20.1%	21.9%	25%	SI
SK Slovak Republic	6.4%	6.4%	6.6%	7.3%	7.7%	9.4%	9.1%	10.3%	10.4%	10.1%	11.6%	10.4%	10.9%	6.7%	8.2%	8.9%	10.0%	11.4%	14%	SK
FI Finland	29.2%	28.8%	30.0%	29.6%	31.4%	31.4%	32.4%	32.8%	34.4%	36.7%	38.7%	33.6%	37.1%	28.5%	30.4%	31.4%	32.5%	34.7%	38%	FI
SE Sweden	38.7%	40.0%	42.7%	44.2%	45.3%	48.2%	47.2%	49.0%	51.1%	52.0%	52.0%	50.0%	52.3%	39.8%	41.0%	42.0%	43.9%	45.8%	49%	SE
UK United Kingdom	1.2%	1.4%	1.6%	1.7%	2.3%	3.3%	3.7%	4.2%	4.6%	5.0%	7.0%	4.4%	6.3%	1.3%	4.0%	5.4%	7.5%	10.1%	15%	UK
NO Norway	58.1%	59.8%	60.3%	60.2%	61.8%	64.9%	61.2%	64.8%	65.9%	65.7%	69.2%	65.3%	67.9%	58.2%	60.1%	61.0%	62.4%	64.2%	67.5%	NO

Source: Eurostat, *Shares 2014 results*, <http://ec.europa.eu/eurostat/web/energy/data/shares>, (accessed on: 15<sup>th</sup> March 2016)

Given the aforementioned EUROSTAT report for 2014, it is evident that Croatia's share of renewable energy sources in gross direct consumption of energy (27.9%) is much higher than the EU-28 average, which is 16%. However, compared to Norway which had a 69.2% share of energy from RES in the same period, we are still far from our possibilities, although it is evident that there has been a change in way of thinking and acting related to RES.

## 3. Results

### 3.1. Analysis of the implementation of Solar (Photovoltaic) Power Plants in Croatia

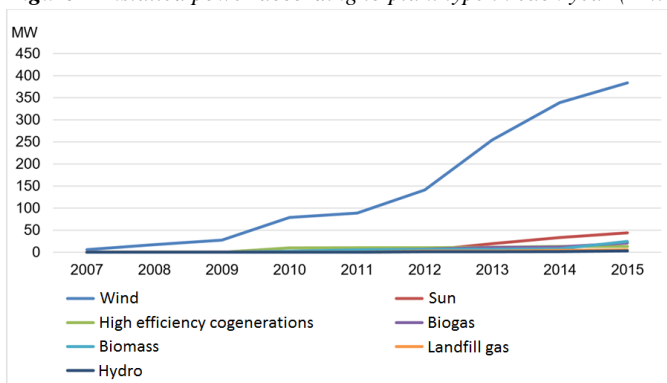
#### 3.1.1. Analysis of the Current Situation at the End of 2015

On 31<sup>st</sup> December 2015, Croatian electric power system had 1274 power plants plugged in (with an activated purchase contract) that used renewable energy sources and cogenerations with a total installed power of 496 036 kW. Regarding the power, wind power plants stood out, 18 of them, with 383 750 kW of power (77.3%), while the most numerous were photovoltaic power plants, 1213 of them, with 43 988 kW of power (9%).<sup>6</sup> Namely, since the RES market in Croatia was rather undeveloped at the beginning of the millennium, the government invested a great effort to encourage usage of new and clean technologies in a way that Croatia's citizens have been encouraged since 2007 through a feed-in tariff system<sup>7</sup> to invest into RES, that is, photovoltaic power plants.

<sup>6</sup> <http://www.hrote.hr/default.aspx?id=45> *Godišnji izvještaj HROTE-a o sustavu poticanja proizvodnje električne energije iz obnovljivih izvora energije i kogeneracije u Republici Hrvatskoj za 2015. godinu*, p. 5 (accessed on 2<sup>nd</sup> March 2016);

<sup>7</sup> Government of the Republic of Croatia has issued in 2007 a Tariff system for production of electricity from renewable energy sources and cogeneration (NN, no. 33/07) which determined the right of eligible producers of electricity to have subsidised price of electricity payed by the operator for electricity produced in power plants using renewable energy sources and cogeneration plants. Production of electricity from renewable energy sources in that period was encompassed by an incentive system through subsidized purchase prices for produced electricity (so called feed-in tariff system).

**Figure 1** Installed power according to plant type in each year (MW)



Source: Annual report of HROTE on incentive system for production of electricity from renewable energy sources and cogenerations in Republic of Croatia in 2015, p. 19, <http://www.hrote.hr/default.aspx?id=45> (accessed on 2<sup>nd</sup> March 2016)

Picture one indicates that in the period from 2007 to 2011, when the quota for photovoltaic power plants was 1 MW, their construction was sporadic due to unprofitability of investments. In 2011 equipment prices decreased, and the 1 MW quota was filled by the end of the year with requests of citizens for installing photovoltaic power plants on their roofs. From 2012 to 2015 there is an increase in installed power for active electricity purchase contracts from 1 MW to approximately 45 MW. The reasons for the increase are expressed interest in investing into photovoltaic power plants (by citizens, public institutions, entrepreneurs, other investors, and even speculators), increase in photovoltaic power plants quota, and extension of Purchase contracts from 12 to 14 years. However, the trend of rapid increase of installed power coming from photovoltaic power plants did not continue, because constant changes of the Renewable Energy Sources Law and subordinate legislation, and decrease in incentive price for production of electricity from photovoltaic power plants brought potential investors into doubts and made them insecure about the investments. Furthermore, the procedure to get a status of eligible producer of electricity did not help, being extremely complicated, time-consuming and presenting a cost for investors, who could not be sure whether they will even sign a Purchase contract, due to limited quotas. Picture 1 also indicates an absolute domination and increase in number of wind power plants, whose power in 2015 reaches almost 400 MW.

### 3.1.2. New Regulations of the Republic of Croatia for Stimulation of Renewable Energy Sources and Photovoltaic Power Plants

The new Law on renewable energy sources and highly efficient cogeneration<sup>8</sup> (RES&HEC) determined new stimulating models which are more market-oriented and decrease distortions on the electricity market. The Law is in accordance to the Guidelines on state aid for environmental protection and energy for the period from 2014 to 2020<sup>9</sup>, thus making the legislative framework of Croatia adapted to pan-European electricity market. However, the new Law is currently not fully applicable until all subordinate legislation intended by the Law are passed.<sup>10</sup> Changes brought by

<sup>8</sup> Law on renewable energy sources and highly efficient cogeneration was passed in the Parliament on 10<sup>th</sup> September 2015 and came into force on 1<sup>st</sup> January 2016 (NN, no. 100/15, on 18<sup>th</sup> September 2015);

<sup>9</sup> [http://eur-lex.europa.eu/legal-content/HR/TXT/PDF/?uri=CELEX:52014XC0628\(01\)&from=HR](http://eur-lex.europa.eu/legal-content/HR/TXT/PDF/?uri=CELEX:52014XC0628(01)&from=HR)

<sup>10</sup> Regulations on RES&HEC, a Decree that would arrange the details necessary to organize a tender for the right to build plants using RES and HEC on state land, a Decree that would establish incentive quotas for the period from 2016

the new Law refer to introduction of a premium model of stimulation and implementation of public tender for the premium market, the introduction of a public tender for contracts on purchase of electricity with a guaranteed purchase price, the introduction of tender for the right to build on state land, small and medium-sized businesses who are outside the stimulating system will be allowed to sell their surpluses to their suppliers, and the introduction of ECO balance group. State-based stimulation of RES development through a feed-in stimulating system (model with a guaranteed purchase price), has been replaced by feed-in premium model (model of stimulation with a market premium).<sup>11</sup> However, the Law defines that power plants or units with installed power of up to 30 kW still have the right to sign electricity purchase contracts with a guaranteed purchase price. The difference between the new and the old legal provisions is in the way of achieving the right to sign an electricity purchase contract. Unlike the previous mode (“first come, first served” principle), new way of acquiring the status of an eligible producer of electricity is based on choosing the most favourable offer by public tender which will be organized by the energy market operator (HROTE)<sup>12</sup>. The market premium model enables paying the producers of electricity a subsidy in the form of market premium, as an additional revenue for electricity that the producer sells directly on the market, at market prices. The Law on renewable energy sources and highly efficient cogeneration determines the way to calculate the market premium for each individual production plant or unit.<sup>13</sup> This Law also regulates the purchase of electricity from end customers with their own production. The supplier of electricity decreases the electricity bill on a monthly basis for end customers with their own production by the amount calculated in a way determined by the (RES&HEC) Law.

### 3.1.3. Analysis of the Solar (Photovoltaic) Power Plant Market of Eastern Croatia

Experience with implementation of incentive system in Croatia since 2007 has shown that investors in the Eastern Croatia have been proactive and most used the potential of the Sun. Eastern Croatia is an area of good insolation and has the possibility to use the solar energy almost throughout the whole year, especially in the summer period.<sup>14</sup>

**Table 2 Photovoltaic (solar) power plants in Eastern Croatia on 31<sup>st</sup> December 2015**

No.	NAME OF THE COUNTY	PLANT'S POWER (kW)	NUMBER OF POWER PLANTS
1.	Osijek-Baranja	6,270.53	245
2.	Vukovar-Srijem	2,674.78	74
3.	Slavonski Brod-Posavina	2,411.15	127
4.	Virovitica-Podravina	1,215.35	36
5.	Požega-Slavonia	743.67	23
	<b>UKUPNO</b>	<b>13,315.48</b>	<b>505</b>

*Source: Based on HROTE's data, made by the authors*

to 2020, a Decision on a RES&HEC fee that suppliers charge the end customers and pass on to HROTE, Rules of conduct for ECO balance group, Rules for selling electricity bought from eligible producers on the market, Adjustment of network rules with provisions of the Law.

<sup>11</sup> The exception are production facilities up to 500 kW, demonstration projects and wind power plants up to 3 MW (or up to 3 production units) who are still allowed to use subsidies through a guaranteed purchase price.

<sup>12</sup> HROTE – basic activities of Croatian Energy Market Operator refer to organization of a market for electricity and gas as a public service, and stimulating production of electricity from RES&HEC and production of bio-fuel for transport. <http://www.hrote.hr/default.aspx?id=13> HROTE is under supervision of Croatian Energy Regulatory Agency (HERA).

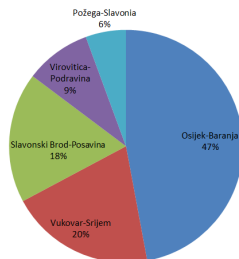
<sup>13</sup> The market premium (**Tpi**) for each individual production plant or production unit in the calculation period will be calculated as:  $Tpi = RV - Tci$ ; where **Tci** is a reference market price of electricity in the calculation period, stated in HRK/kWh, and **RV** is reference value of electricity established under the market premium contract, stated in HRK/kWh (The Law on RES&HEC, NN, no. 100/15);

<sup>14</sup> [http://re.jrc.ec.europa.eu/pvgis/cmeps/eu\\_cmsaf\\_opt/G\\_opt\\_HR.png](http://re.jrc.ec.europa.eu/pvgis/cmeps/eu_cmsaf_opt/G_opt_HR.png) (accessed on 15<sup>th</sup> March 2016)

Table 2 shows that according to installed power and the number of photovoltaic power plants, in the first place in Eastern Croatia, with 245 photovoltaic power plants, is the Osijek-Baranja County with a total power of 6,270.53 kW. The runner-up is Vukovar-Srijem County with 74 power plants and the total power of 2,674.78 kW, Slavonski Brod-Posavina County is in the third place with 127 power plants and 2,411.15 kW of power, 36 power plants of Virovitica-Podravina County are in the fourth place with total power of 1,215.35 kW, and in the last place is Požega-Slavonia County with 23 power plants and installed power of 743.67 kW.

**Figure 2** Installed power of RES plants in Eastern Croatia per counties

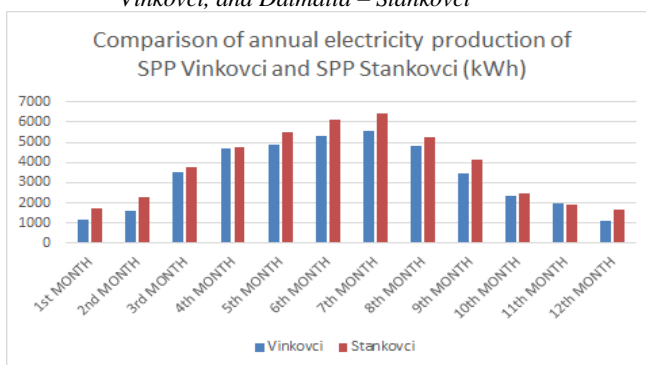
INSTALLED POWER OF RES PLANTS IN EASTERN CROATIA PER COUNTY (kW)



Source: Based on HROTE's data, made by the authors

Picture 2 shows the power of plants in Eastern Croatia per counties, stated in percentages, where it is evident that as much as 47% of total installed photovoltaic power plants are installed in the area of Osijek-Baranja County. Picture 3 shows comparison between total produced and delivered electricity into electricity network for SPP Vinkovci and SPP Stankovci, each with 30 kW of power. The total production of electricity by SPPs in Slavonia in calculated period of 12 months is 40,372 kWh, while the total production of SPPs in Dalmatia is 46,106 kWh. The difference in total production is 5,733 kWh. The entrepreneur who owns the aforementioned power plants, and whom we interviewed, thinks the difference is negligible, and does not affect significantly the return on investment.

**Figure 3** Comparison of produced energy in photovoltaic (solar) power plant (SPP) in Slavonia – Vinkovci, and Dalmatia – Stankovci



Source: Internal data provided by the owner, the company Grad-Export d.o.o; processed by the authors

### 3.2. Analysis of Results Obtained by Interviewing

For research purposes eight entrepreneurs have been interviewed who have been eligible producers since 2012, and with whom HROTE signed Purchase contracts for electricity<sup>15</sup> for 24 photovoltaic power plants with a total power of 985 kW<sup>16</sup>, and they are satisfied with that part of investments. The return on investments, by their own projections, they expect in average within 5 or 6 years since the first delivery of electricity, depending on the power of photovoltaic power plants, purchase price and the duration of the contract (12 or 14 years). However, despite their own investments of approximately 100,000 HRK per photovoltaic power plant for obtaining different permits, and approximately 400,000 HRK for the purchase and installation of each photovoltaic power plant, the entrepreneurs stressed they will give up on further investments of this sort. One of the entrepreneurs even has a signed contract with HROTE for two planned photovoltaic power plants, but at current purchase prices he considers the project unprofitable. Projections on return of investments are absolutely unclear, and the return period extends to 15 to 20 years which is absolutely not feasible at current conditions. Owner of a company specialized for administrative procedure of obtaining documents for acquisition of the status of eligible producer of electricity from RES thinks the Law on RES&HEC is written in such way that it favours certain interest groups and as such it is untenable, which, according to his opinion, will be evident in a couple of years. Frequent changes of subordinate legislation and unclear (undefined) Law on RES&HEC created the feeling of confusion and uncertainty in potential investors. An interest exists, but not in the same extent as it used to be 2 or 3 years ago when demand for this type of investments was extremely high. Unfortunately, statements of the Minister of Economy, who is in charge of the energy sector, do not speak in favour of investments into photovoltaic power plants. The Minister recently stated for the media<sup>17</sup> that the Ministry will orient themselves more towards investments into biomass instead of the solar panels and wind power plants. Moreover, he emphasized that they will look forward to projects that encompass all components, not just production of electricity, adding that the focus will be on biomasses that have a high share of domestic products. The positive side for potential investors into photovoltaic power plants is that the Minister of Economy said the new ordinance on RES quotas is expected, adding that they will redefine the criteria for obtaining the right to enter into a purchase contract for electricity.

### 4. Discussion and conclusion

The results of this research have shown that, although the share of RES in gross direct consumption of Croatia is higher than the European Union average, and Osijek-Baranja County leads in produced power from photovoltaic power plants compared to other counties of Eastern Croatia, there are still possibilities of improvement. Frequent changes of the Law on RES and its implementing regulations deflect all sorts of investments and create a problem for economy in general, as well as in energetics. Clear visions and guidelines, legal security, expert staff that will write laws for the common good of all and following the global trends can generate success. If the laws are written to favour small interest groups, they can bring a short-term success to those groups, but the state will only get a long-term lack of competitiveness. Recommendations refer primarily to defining a new share of RES in gross direct consumption of electricity, then the issue of passing a new Energy Development Strategy of Croatia, revision of the National Action Plan for RES from 2013, and defining necessary collaterals, that is, “protection” of producers of electricity from RES.

---

<sup>15</sup> It refers to facilities which are included in incentive system.

<sup>16</sup> Photovoltaic power plants according to their power: 1 with 300 kW, 1 with 25 kW and 22 with 30 kW.

<sup>17</sup> Energetika.net.com, *Panenić: Veći fokus na biomasi nego na vjetroelektranama i fotonaponu*, <http://www.energetika-net.com/vijesti/obnovljivi-izvori-energije/panenic-veci-fokus-na-biomasi-nego-na-vjetroelektranama-i-fotonaponu-22590> (accessed on: 6<sup>th</sup> April 2016)



## REFERENCES

Državni zavod za statistiku, *Podaci o energetskej učinkovitosti u kućanstvima i uslugama u 2012.*, [www.dzs.hr/Hrv\\_Eng/Other/Podaci%20o%20energetskej%20ucinkovitosti%20u%20kucanstvima%20i%20uslugama%20u%202012.pdf](http://www.dzs.hr/Hrv_Eng/Other/Podaci%20o%20energetskej%20ucinkovitosti%20u%20kucanstvima%20i%20uslugama%20u%202012.pdf), (accessed: 15<sup>th</sup> March 2016)

EUROSTAT, **Shares 2013 results**, <http://ec.europa.eu/eurostat/web/energy/data/shares> (accessed: 15<sup>th</sup> March 2016)

EUROSTAT, **Shares 2014, results** <http://ec.europa.eu/eurostat/web/energy/data/shares> (accessed: 15<sup>th</sup> March 2016)

Hrvatski operator tržišta energije (HROTE), *Godišnji izvještaj HROTE-a*, [www.hrote.hr/default.aspx?id=45](http://www.hrote.hr/default.aspx?id=45), (accessed: 2<sup>nd</sup> March 2016)

HROTE, *O nama*, [www.hrote.hr/default.aspx?id=13](http://www.hrote.hr/default.aspx?id=13) (accessed: 2<sup>nd</sup> March 2016)

### **Internal data provided by the owner, the company Grad-Export d.o.o; processed by the authors**

Joint research Centre, PVGIS, [http://re.jrc.ec.europa.eu/pvgis/cmaps/eu\\_cmsaf\\_opt/G\\_opt\\_HR.png](http://re.jrc.ec.europa.eu/pvgis/cmaps/eu_cmsaf_opt/G_opt_HR.png) (accessed: 15<sup>th</sup> February 2016)

Ministarstvo gospodarstva, *Nacionalni akcijski plan za OIE do 2020.* [www.mingo.hr/userdocsimages/energetika/NAP\\_OIE.pdf](http://www.mingo.hr/userdocsimages/energetika/NAP_OIE.pdf) (accessed: 14<sup>th</sup> March 2016)

Raguzin, I. and Tomšić, Ž. (2007): *Razvoj politike obnovljivih izvora energije (OIE) u pregovorima o pristupanju RH Europskoj uniji*, Europski poslovni forum o OIE, Cavtat

*Službeni list EU*, 12/Vol. 5; on 13<sup>th</sup> May 2013: <http://eur-lex.europa.eu/legal-content/HR/TXT/HTML/?uri=CELEX:32013L0018&from=HR> (accessed: 15<sup>th</sup> March 2016)

*Službeni list EU*, 15/Vol. 11; on 5<sup>th</sup> June 2009: <http://eur-lex.europa.eu/legal-content/HR/TXT/PDF/?uri=CELEX:32009L0028&from=HR> (accessed: 15<sup>th</sup> March 2016)

*Strategija energetskeg razvoja*, Narodne Novine, no. 130/09

*Tarifni sustav za proizvodnju električne energije iz obnovljivih izvora energije i kogeneracije*, Narodne Novine, no. 33/07

*Zakon o energiji*, Narodne Novine, no. 120/12

*Zakon o obnovljivim izvorima energije i visokoučinkovitoj kogeneraciji*, Narodne Novine, no. 100/15

**Silvija Zeman, dr.sc.**

Međimursko veleučilište u Čakovcu

Bana J. Jelačića 22a

095 56 89 004;

szeman@mev.hr

**Sonja Rajić Bistrovic, mag.educ.chem, spec.zaštite okoliša**

Međimursko veleučilište u Čakovcu

Bana J. Jelačića 22a

sonja.rajic.bistrovic@mev.hr;

**Ana Vovk Korže, ddr, prof**

Univerza v Mariboru

Koroška cesta 160, 2000 Maribor, Slovenija

T: +386 2 22 93 836; fax +386 2 22 93 625

ana.vovk@um.si

## **INDICATORS OF INHIBITION OF ANAEROBIC DIGESTION PROCESSES IN THE BIOGAS PLANT**

### **INDIKATORI INHIBICIJE ANAEROBNIH PROCESA DIGESTIJE U BIOPLINSKOM POSTROJENJU**

#### **ABSTRACT**

*The ecological balance is globally disrupted due to environmental pollution by hazardous and non-hazardous waste types of developed industrial countries that over-exploit natural resources, and the problem is intensified by developing countries, where the tendency of increasing poverty due to population growth is recorded, which has no economic and security conditions for prosperity. One of the solutions for poor rural areas are biogas plants, because this renewable energy directly materializes all three priority EU objectives of the "Climate and Energy Package 20-20-20 ". In this paper, the possible causes of inhibition of anaerobic processes in the AD (anaerobic digestion) plant are analyzed, and possible ways of eliminating the causes of inhibition of the AD processes in biogas plants are proposed. The contribution of this paper is the rise of environmental awareness, and the overcoming of prejudice about unenforceability and refusal of new and better solutions provided by the EU legislator with its directives, difficulty accepted by the base; the farmer and the local government.*

**Key words:** anaerobic digestion, biogas plant, dry matter, C/N ratio, temperature

#### **SAŽETAK**

*Ekološka ravnoteža globalno je narušena zbog zagađenja okoliša opasnim i neopasnim vrstama otpada razvijenih industrijskih zemalja koje prekomjerno eksploatiraju prirodne resurse, a problem povećavaju i zemlje u razvoju gdje je zabilježena tendencija povećanja siromaštva zbog porasta broja stanovništva, koje nema gospodarske ni sigurnosne uvjete za svoj prosperitet. Moguće rješenje za siromašne ruralne sredine su bioplinska postrojenja, jer ti obnovljivi izvori energije (OIE)*

*izravno ostvaruju sva tri prioriteta EU cilja „Energetsko-klimatskog paketa „20-20-20“. U ovom radu analizirani su mogući uzroci inhibicije anaerobnih procesa u postrojenju za anaerobnu digestiju (AD), a predloženi su i mogući načini otklanjanja uzroka inhibicije AD procesa u bioplinskim postrojenjima. Svrha ovog rada je objedinjenje i analiza činitelja koji dobro ili loše utječu na sam tijek AD procesa u bioplinskom reaktoru. Doprinos ovog rada je u podizanju razine ekološke osviještenosti i prevladavanju predrasuda o neprovedivosti i neprihvatanju novih boljih rješenja koje daje EU zakonodavac svojim direktivama, a vrlo teško ga prihvaća baza; poljoprivrednik i lokalna samouprava.*

**Ključne riječi:** anaerobna digestija, bioplinsko postrojenje, suha tvar, C/N omjer, temperatura

## **1. Introduction**

Even though the AD process was known to the ancient civilizations such as the Assyrians or the Chinese 3000, that is, 4000 years ago, it was only in Great Britain that in 1804. – 1810. Henry and Davy Dalton discovered the similarity of the methane gas for lighting with the Volta's marsh gas. They also proved that methane is released in the process of bovine manure decomposition. Even though the first patent Imhoff tank was noted in Germany in 1907., only a few decades later begins the progress in understanding the conditions for successful implementation of microbiological reactions in a digester. Organized action of the European Union with the aim to implement Renewable energy through the National Renewable Energy Action Plan for the utilization of biomass and biogas has begun in the 21st century, together with the adoption of the Directive 2009/28/EC. Croatia is also following these trends with legislation from 2007. Thus, the EU is expecting from the member states an increase of 20% of fuel of biological origin: bio-ethanol, bio-diesel or bio-methane in fuel distribution. A 0.41% of the bio-diesel called “Greengas” equals to the energy value of a 1m<sup>3</sup> of purified biogas [5]. Neighbouring Hungary has produced in 2005. 13 MW of electricity from biogas plants, and by 2020 they are planning a production of 50 MW from the same renewable energy sources, respectively, from 2005. to 2009. a 8.5 % increase in the share of renewable energy is planned, and by 2020. a share of 30% of renewable energy is planned. 650 000 tonnes of slurry and 98 000 tonnes of whey, a by-product of cheese production, are processed there annually in biogas plants. 150 farms collect slurry in one technological unit in Mabjerg for the production of biogas and digestate, where a system of underground pipelines (2.7 km) is used to reduce emissions that would otherwise occur due to slurry disposal and digestate transportation to nearby farmlands [2]. It is expected from Croatia to follow such examples and therefore the plan is that the share of RES in Croatia is 20% by 2020. [9]. Due to this binding goal, a comprehensive Law on RES has been passed this year, i.e., in 2016, and bylaws are expected soon. In 2013, 8 power plants have been connected to biogas in Croatia, and this year it is planned for the first biogas plant to be put into operation in Kotoriba in Međimurje. Great ecological, and with time, economic benefits are expected, as well as social contribution to the sustainable development of this farming area near the Hungarian border. The project was launched with the enthusiasm of mr. Ivan Kos, a young entrepreneur from Kotoriba, who was motivated by examples from Denmark five years ago. For the most part, these projects are being financed from the EU funds.

## **2. Anaerobic digestion in general**

Anaerobic digestion is an environmentally friendly method of recycling organic waste of plant or animal origin with the aim of producing renewable energy and improving the properties of fresh manure as organic fertilizer. The purpose of this paper is the unification and analysis of factors that have a positive or negative influence on the course of AD process in the biogas reactor. Some studies are comparing the process of anaerobic digestion with natural processes in the stomach of ruminants,

processes on the bottom of the sea or swamps. Analog simplified biochemical processes are taking place in the digester of the biogas plant in a series of 4 related phases - processing steps. The first phase, depending on the raw medium and the project implementation of the biogas plant, may take place in a separate reactor. In this phase, complex organic molecules of carbohydrates, fats, oils and proteins are broken down by biochemical reactions of hydrolysis in anaerobic conditions into simple monomeric and oligomeric carbohydrates, fatty acids, glycerol and peptides (purines and pyrimidines) [1]. Depending on the type raw material, hydrolysis can be the slowest stage of the process of anaerobic digestion. Hydrolytic bacteria produce exoenzymes and these again use hydrolysis products for their metabolism in a symbiotic manner. In the second stage of the anaerobic fermentation process, the abovementioned hydrolysis products are decomposed by acidogenic bacteria: *Lactobacillus*, *Clostridium* and *Streptococcus*, to acetic acid or acetate, carbon dioxide and hydrogen, and make up 70% of the total product. 30% of the hydrolysis products pass into volatile fatty acids (VFAs) and alcohols [3]. It is exactly because of the latter that anaerobic acetogenic bacteria exist: *Acetobacterium* and *Pelobacter*, that transform them in the third stage of the AD process into simpler methanogenic substrates: acetate and hydrogen. Acetogenic bacteria are in turn in symbiotic relationship with methanogenic bacteria: *Methanococcus* and *Methanosarcina*, and therefore operate at the same time and in the same area of anaerobic digesters. The final product of the fourth methanogenic phase is methane that is mostly formed of acetate (70%) and of CO<sub>2</sub> and H<sub>2</sub> (30%) [9].

### **3. Factors affecting the growth and activity of anaerobic microorganisms and the inhibition of methanogenesis of AD**

Inhibitors may be undesirable environmental or working conditions of digestion or undesirable substances that can slow down the process or stop it completely. Primarily, it is necessary to provide following environmental conditions for the smooth operation of the biogas reactor: lack of oxygen, optimal percentage of dry organic matter of the substrate, the appropriate composition of the raw material for digestion or co-digestion, the exact setpoint temperature, pH, nutrient supply, C/N relation and the correct concentrations and ratios of the present macronutrients and micronutrients, as well as the inhibitory substances entered with raw materials or formed in the substrate during the AD process: ammonia, sulfide or toxic elements, trace metals [6]. It is necessary to control the following factors of working conditions: adequate mixing intensity and the removal of the accumulated floating crust on the surface of the liquid substrate in the digester, pressure, residence time of the substrate in the digester (HRT), which is connected to digester volume.

#### **3. 1. Lack of oxygen**

In aerobic conditions, the mass concentration of 0.1 mg / l of oxygen present is considered to be an inhibitor of anaerobic bacteria or anaerobic biogas fermentation. Oxygen is an indicator of AD and the oxygen level should be below 1% [7].

#### **3. 2. Dry matter (DM)**

Depending on the percentage of dry matter, the AD process can be: wet or dry digestion. In the wet process the % of dry matter is less than 20%, mainly in slurries or industrial waste as raw material. If the % of dry substance is 4-8%, then a high water content provides good mixing with other substrates and, due to lower viscosity, there is a higher solubility of all substances in the substrate. The diffusion is easier thus enabling faster chemical reactions, however, because of excessive dilution of the substrate, the biogas yield can be reduced. In this case, it is recommended to add the solid separated component. By comparison of two groups of sheep manure substrate with 13.2% of

dry matter and 11% of dry matter following amounts of the produced biogas were obtained: 21,18ml / ml of substrate and 28,15ml / ml of substrate. This clearly shows a better yield of biogas with a substrate comprising a lower % of dry matter (AD process at 40 °C) [4]. A load of dry substance of 10% or less is also recommended, except for chicken manure with larger content of dry matter, which is reduced to 15% of dry matter [1].

### 3. 3. The concentration of ammonia

A possible objection to thermophilic processes is an increase of concentration ammonia molecules  $\text{NH}_3$  with temperature increase, compared to the non-toxic ionic form  $\text{NH}_4^+$ . In this case, toxicity is increased, because already in low concentrations (3.5 mg/l), the molecular ammonia has a lethal effect on the bacteria [1, 3]. Depending on the amount of the substance that a substrate composition in the digester contains, the pH sometimes increases due to the presence of substances that act alkaline. An example is the basic compound of ammonia, which must be in ionic equilibrium and toxic molecular form.

$$K_a = [\text{H}^+] [\text{NH}_3] / [\text{NH}_4^+]$$

$$[\text{NH}_3] = K_a [\text{NH}_4^+] / [\text{H}^+]$$

The amount of acidic and basic compounds in the substrate can be successfully controlled by the bicarbonate buffer system to prevent a drastic change in pH and inhibition of the process, so that the solution retains a very low alkalinity. The rise of the pH and and the rise of temperature causes an increase in the concentration of molecular ammonia. Care should be taken that this concentration does not exceed the value of 80 mg/l in the substrate, as it would inhibit bacteria and the entire AD process. The risk of inhibition of the AD process by ammonia is greater in thermophilic processes. In addition to acidic and alkaline compounds, partial pressures of  $\text{CO}_2$  and  $\text{H}_2$  also influence pH values.

### 3. 4. Temperature

Whether psychrophilic, mesophilic or thermophilic bacteria will be chosen for the process of anaerobic digestion depends on the type of substrate. Psychrophilic bacteria with operation temperature below 20 ° C and the anaerobic digestion processes that use them are evaluated as economically unprofitable due to a too long residence time of the substrate in the digester. With increasing temperature the metabolism of bacteria is accelerated, the retention time is reduced and the number of methanogenic bacteria is increased. In addition, in these conditions exists a greatest degree of destruction of pathogens and the melting of inhibitory, mainly gaseous substances is weaker:  $\text{H}_2$ , methane, ammonia, hydrogen sulfide and volatile fatty acids, although thermophilic bacteria are most sensitive to temperature changes, and break their metabolic activity at temperature changes of only  $\pm 1$  ° C, or even, according to some authors  $\pm 0.5^\circ\text{C}$  [1, 3]. If the temperature exceeds the tolerance threshold of methanogenic bacteria, the AD process will be inhibited due to denaturation of protein molecules of enzymes. For this reason, it is very important to define the temperature range which should be strictly complied with using a reliable system digester heating. The most sensitive of the group of present methanogens, Methanococcus and Methanosarcina, will be preserved at lower temperatures in the event of failure of the digester heating, but no longer than 2 hours. After such an occurrence and at a suitable temperature, the vital functions of methanogenes – swelling, growth and reproduction - will soon start functioning again. Furthermore, the whole biochemical processes of substrate degradation for biogas production would be restarted and

the plant would continue to operate normally [6]. It can be read from the graphic display of sludge and waste materials that the optimum temperature of digestion for mesophilic processes with the largest methane yield is at 35°C [4], and 55°C [1, 9] for thermophilic processes (table 1).

**Table 1** Classification of temperature zones and retention times

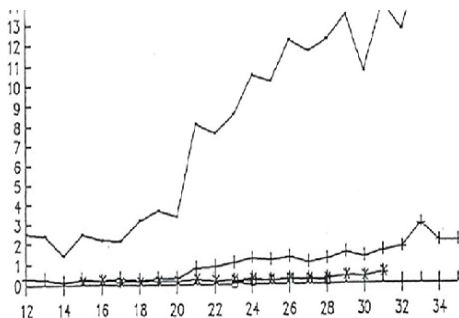
Type of process, bacteria	Process temperature/°C	Optimum temperature/°C	Minimum time of retention/days
Psychrophiles	<20	20	70-80
Mesophiles	30 -42	30-35	30-40
Thermophiles	43-55	55-60	15-20

Source: created by author

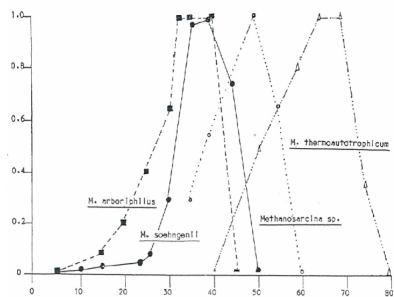
Mesophiles are less sensitive than thermophiles and have a tolerance for temperature changes in the interval of  $\pm 3^\circ\text{C}$  [1], (35 +/- 1) [7]. However, most authors evaluate the thermophilic processes as the best and most cost-effective owing to a number of advantages. Figure 2 shows the relationship of temperature and methane potential of methanogenic bacteria in mesophilic and thermophilic conditions [7]. For cattle manure, raw sewage sludge and some agricultural residual, the values are the same, though processes not so well defined [6].

### 3. 5. Volatile fatty acids (VFAs)

**Picture 1** Temperature dependance of the VFA concentration. **Picture 2** The relation of temperature and the methane potential.



Source: Marchaim at all 1992.



Source: Marchaim at all 1992.

Can be taken as a separate parameter, since the pH value is sometimes in the normal range due the alkaline, buffer effect of stable manure, and yet, the accumulated VFAs are capable of inhibiting a part of the process in the digester, which again can lead to the inhibition of the whole biogas manufacturing process. The inhibition effect of propionate is at concentrations greater than 1,000 ppm [6]. In this case, it is not enough to control the pH value, that can rise sharply when the

buffering effect of alkaline substances in manure wears off, but the volatile fatty acids should be monitored as a separate parameter [1]. The sensitivity of bacteria in a single digester is dependent on the composition of the population of bacteria. The limit value of bacteria sensitivity to the concentration of organic acids are from 500 - 1500 mg / l [6].

### 3. 6. pH values

Similar to temperature, pH value of the mixture of the substrate can act inhibiting on the above-mentioned anaerobic microorganisms necessary for the AD process. Hydrophilic and acidophilic bacteria are active in the pH range between 5.5 - 6.3, while for the acetogenic and methanogenic bacteria the pH range is from 6.5 - 8.0 [9]. In mesophilic conditions the pH sometimes falls below 6, due to a better dissolution of gases which give an acid reaction: CO<sub>2</sub>, H<sub>2</sub>S or volatile fatty acids (VFAs) at lower temperatures. This may present a risk of stopping the entire process of methane production. In thermophilic conditions still a lower amount of gaseous substances that give an acid reaction is dissolved. Examples of limit inhibitory values of concentrations of hydrogen sulfide and volatile fatty acids are:  $\gamma(\text{H}_2\text{S}) < 50 \text{ mg/L}$ ,  $\gamma(\text{HMK}) < 2.00 \text{ mg/l}$  [6].

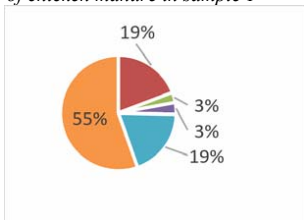
### 3. 7. Toxic elements

Most often these are self-soluble metal ions: Ca<sup>2+</sup>, Mg<sup>2+</sup>, Na<sup>+</sup>, K<sup>+</sup>, Fe<sup>2+</sup>, Cu<sup>2+</sup>, Zn<sup>2+</sup>, Cr<sup>2+</sup> or NH<sup>4+</sup> that are entered into the digester together with raw materials. In normal, low concentrations these cations even have a stimulating effect, as mentioned in the next sub-section of the paper, 3.8, but at higher concentration they show an inhibitory effect and some other toxic substances generated by increasing of the temperature during the AD process (NH<sub>3</sub>, H<sub>2</sub>S) [6]. In addition, the inhibitors of the process are some anions: SO<sub>4</sub><sup>2-</sup>, NO<sub>3</sub><sup>-</sup> and S<sup>2-</sup>. When in small, allowed concentrations, these inhibitory substances merely slow down the AD process in the digester, because the bacteria can still adapt, while at higher concentrations the poisoned bacteria die. Depending on the pH conditions of the anaerobic digestion, many heavy metal ions form sulphides and hydroxides. One solution is to add chemicals such as sulfates, that would create non-toxic complex compounds or insoluble precipitates with the heavy metal ions.

### 3. 8. Nutrients, C/N relation

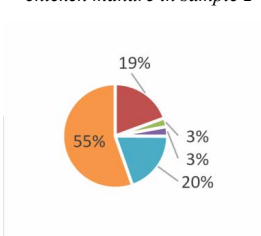
The selection of raw an optimal C/N ration is the right choice of the raw material content, not just the input of high protein content. For proper growth, development and functioning of bacteria, nutrients that contain the following macroelements in the most commonly specified ratios are necessary C:N:P = 600:15:5 [1,3]. The measurement of total nitrogen includes: risk ammonium ions that can transform into the hazardous molecular shape and the non-hazardous, preferred form of nitrogen in a fertilizer: NO<sup>3-</sup>, the nitrate ion form. In addition, nutrients that contain trace elements are necessary: Mg, Na, Ca, K and Co. Table 2 shows the values in three parallel samples of chicken manure, originating from a poultry farm in Kotoriba, that will be used as raw material in the AD process.

**Picture 3** Laboratory analysis of chicken manure in sample 1



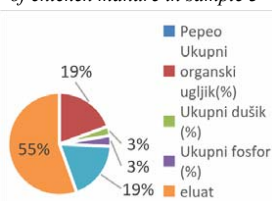
Source: created by author

**Picture 4** Laboratory analysis of chicken manure in sample 2



Source: created by author

**Picture 5** Laboratory analysis of chicken manure in sample 3



Source: created by author

## 4. Materials and methods

Samples of chicken manure are prepared and acidified with hydrochloric acid. After the calibration of the instruments, measurements were performed using the EN ISO 1484: 2002 method for the determination of total organic carbon; or total nitrogen, using the method by Kjeldhal; and finally, total phosphorus was defined spectrometrically.

### 4. 1. Sampling and measuring

Three samples of following was conducted: around 0.5 kg of chicken manure from Kotoriba in Međimurje County, where EKO KOTOR Ltd. plans to launch a biogas plant during the summer months of 2016. Chicken manure will be the main raw material for biogas in this plant, that is, 80% of the total raw material, or, more precisely, approximately 8000 t of fertilizer will be available annually. Sampling and measurement of total organic carbon was determined by the method of total organic carbon (TOC) in the TOC-V in the CNS Total organic carbon analyzer of the manufacturer "Shimadzu", Japan. The total organic carbon was determined in a homogeneous samples of particle smaller than 2 mm and not dried. The measurement was started by preparing 50 mg of chicken manure sample, using the dry process. In the measuring container, the content of the sample was soaked with an excess of HCl, which is stirred and then left to stand for 4 hours. Then, the dish with the sample is dried for 16 hours at room temperature. The measurement is performed according to the manufacturer's instructions, according to which the apparatus for measurement must be calibrated with prepared working solutions, using the precise concentration obtained by dilution of a standard Stock solution. After that three individual measurements of weight of the total organic carbon in a sample are conducted, according to the reference standards for carbon EN ISO 1484:2002. The amount of hydrochloric acid is minimum for the purpose of destruction of the inorganic carbon linked in the carbonates ( $\text{CO}_3^{2-}$ ), which evaporate from the sample in the form of  $\text{CO}_2$  in this process. In each series of measurements, in our case, of three samples, a testing was undertaken. After acidification and drying, a current of pure, inert gas argon, free of  $\text{CO}_2$  and organic impurities was streamed for 5 minutes in order to expel  $\text{CO}_2$ . After the measurement, the results were read according to the peak height on the printer. Each result is displayed as an average value of the two measurements and rounded to two decimal places. Total nitrogen was determined by distillation of 10 g of chopped chicken manure, and the measurements were conducted on the three previously prepared samples by the method EN ISO 11905-1: 2001. The procedure consists of sample destruction, distillation and preparation of the blank assay, which is performed in parallel with the standard, by the same process but without the sample. The consumption of sulfuric acid in



the blank test and in the samples was recorded in order to be able to calculate the content of nitrogen in mg/g according to the formula:

$$N = (V_1 - V_0) \times c(H) \times M/m$$

$V_1$ -volume, ml of sulfuric acid used for titration of the sample;  $V_0$ - volume, ml of sulfuric acid used in the blank test;  $c$  (H) H -concentration in sulfuric acid, mol/l, 0.02 mol/l; M-molar mass of N, g/mol = 14; m-weight in grams, air-dry soil sample.

Chicken manure sample solution to determine the concentration of phosphorus was prepared by destruction of dry sample and by digestion of ash with the use of aqua regia, i.e., nitric and hydrochloric acid at a ratio of 3:1. The concentration of total phosphorus in the prepared solution was determined by spectrophotometric phosphorus-molybdenum method. pH of the samples was measured by the electrometric measurement method in the filtrate of 10 g of fresh chicken manure mixed on a rotary shaker for 1 h in 100 ml of deionized water (1:10, sample: water). A content of total solid, the so-called dry solid (DS) were measured in the samples of chicken manure. The content of DS was determined by drying 100 g of fresh manure in a drying oven at 75°C to constant weight [6]. Total dry matter and the moisture % are calculated from data of fresh matter weight and dry matter content after drying. Weighing procedure was performed on an analytical scale, type AG204 DeltaRange, tb. SNR 1117251334 (MettlerToledo, Switzerland). C:N relation was calculated from the data of total organic carbon and total nitrogen.

#### 4.2. Statistic analysis

Results are shown as individual values. Results of measurements within a group are shown as mean  $\pm$  standard deviation. For statistical analysis we used a PC application Microsoft Excel and Values considered statistically insignificant.

### 5. Results and discussion

Results of pH sample values, total dry matter (DM), and the mass fraction of the eluate of the different components of the total dry matter in chicken manure sample are shown in Table 1. The values are shown in % for eluate and the dry matter, consisting of: the total organic carbon (C), total nitrogen (N), total phosphorus (P), volatile fatty acids (VFAs), ammonia (NH<sub>3</sub>), hydrogen sulphide (H<sub>2</sub>S), phosphorus (V) oxide (P<sub>2</sub>O<sub>5</sub>), potassium oxide (K<sub>2</sub>O), metal, etc. The mean value is shown in weight ratios, and for the eluate it was 55,40 %, and the remaining 44,60 % refer to the total dry substance. The largest percentage of total solids is organically bound carbon 19,33 %, followed by other components (VFA, NH<sub>3</sub>, H<sub>2</sub>S, P<sub>2</sub>O<sub>5</sub>, K<sub>2</sub>O, metals) 19,22 %, total phosphorus 3,12 % and total nitrogen 2,84 %.

**Table 2** Analysis results of the chicken manure sample, the main raw material for AD digestion

Chicken manure sample	pH	Eluate (%)	Total DM (%)	Total dry matter				C/N ratio in chicken manure samples
				Total organic carbon (%)	Total nitrogen (%)	Total phosphorus (%)	Others: (%) HMK, NH <sub>3</sub> , H <sub>2</sub> S, P <sub>2</sub> O <sub>5</sub> , K <sub>2</sub> O, metals.	
1.	7,10	55,40	44,60	19,20	2,87	3,31	19,22	6,69
2.	7,20	55,33	44,67	19,39	2,72	2,72	19,58	7,13
3.	7,05	55,47	44,53	19,41	2,93	3,32	18,87	6,62
Average values	7,12 ±	55,40±	44,60 ±	19,33 ±	2,84 ±	3,12 ±	19,22 ±	6,81 ±
Standard deviation	0,08	0,07	0,07	0,07	0,11	0,33	0,36	0,27

Source: created by author

Inhibition factors may be mentioned: working conditions of the AD process or chemical substances that affect the life, growth or withering of microorganisms. The source of larger % of nitrogen in the substrate can be air that is introduced into the digester when filling with raw materials. Good medium for bacteria life is sufficient surface size for a process of a strictly anaerobic digestion, with the indispensable darkness, humidity, and porosity of the fermented raw-material mixture, regardless of whether the percentage of dry matter is higher than the recommended 10% of dry substance in the substrate. While stirring the mixture in the digester there should be at least 50% of water for the process to proceed undisturbed. The mean dry matter value in samples of chicken manure is 44%, which corresponds to literature data. The ratio of measured mass fractions of C:N:P is shown in the pictures: 4, 5, and 6 and corresponds to literature data for chicken manure. This ration depends on the type of raw material, such as cattle dung, which has a well-balanced ratio of carbon and nitrogen: 25/1, while due to the high percentage of nitrogen, human excrement as well as swine and poultry manures would be risky to use without balance with other raw materials with a low nitrogen content, e.g. crop residues (wheat, rice), in which the ratio of carbon to nitrogen is high, 40/1. Since the shares of DM in the analysed samples of chicken manure from the biogas plant in Kotoriba reach values even to 44.67%, digesters for the production of biogas would not cope with such a big load. In this case, a dilution by adding water to the substrate to 10, even 15% of DM is recommended. The most adequate temperature range for thermophilic process from the hygienic (sanitary) standpoint would be 60-70 °C [1]. (according to the manual, even from 55°C) [3,9]. The activity of the group of bacteria are dependent on the temperature, and thus the speed of the four process steps of AD. Studies on the possible values of pH vary in the range of 3 - 9. This value may be increased by adding alkaline substances, if too low, in our case this is not necessary. The C/N ratio in the analysed sample is from 7.05 to 7.20 - just in the literature range foreseen for chicken manure. [1,6,9]. Recommended C/N ratio in microbiological substances is 4-9, for organic material from 20 -25. In the aerobic compost the range of C/N ranges from 15 - 20, and some authors recommend even 30 for the AD substrate [3]. At values exceeding 35, the AD process is slowed down due to nitrogen lack, therefore raw material richer in nitrogen should be added, for e.g. livestock manure or liquid manure. In the case of samples of chicken manure from Kotoriba, the mean C/N ratio is 6.81, which is a too low value for optimum AD substrate, and a co-digestion with a plant raw material is necessary.

## 6. Conclusion

Because of the sensitivity of bacteria to living conditions, especially the temperature, it is necessary to provide heating of the digester using sensitive wall or floor heating systems for the digester to imitate the digestive system of ruminants. Temperature is the most sensitive inhibitory factor associated with the type of microorganisms in the digester, the occurrence of undesirable molecular ammonia and the type of the AD process. The heating and mixing of the substrate in the thermophilic conditions in the digester consumes about 20% of the produced methane in the biogas plant, which still fully justifies a higher yield of biogas in thermophilic conditions. The measured greater amount of DM in samples of chicken manure can lead to lower bio methane yields, longer HRT, and even to a complete inhibition and stopping of the AD process, therefore the correlation between volume and retention time of the substrate in the digester is also of great economic importance. Raw material rich in carbon, for example, crop residues of cereal crops, grass or hay should be added to the sample of chicken manure from Kotoriba in order to balance the C/N ratio with available organic carbon from plant material. Otherwise, the AD process would be slowed down, although it would still be taking place normally, but the losses of nitrogen in the form of creation and evaporation of the toxic form of molecular NH<sub>3</sub> would be quite pronounced, and bacteria, holders of the AD process, would not be able to use available nitrogen at an appropriate speed.

## REFERENCES

- Al Seadi, T.; Rutz D.; Prassl H.; Kötner M.; Finsterwalder T.; Volk Silke, Janssen R. (2008): **Bioplin priručnik, Timski rad Intelligent Energy for Europe**, u okviru projekta Big East, pp. 23-33
- Boromisa A. (2013): **Obnovljivi izvori u Europskoj uniji**, EGE, Vol. 1, No. 2, pp. 92-93
- Kalambura, S.; Krička, T.; Kalambura D. (2011): **Gospodarenje otpadom**, 4. poglavlje – bioplin, Veleučilište Velika Gorica, Velika Gorica, Hrvatska, pp. 17-23
- Kralik, D. (2007): **Utjecaj temperature u bioreaktoru na količinu i sastav bioplina**, Zbornik: OBNOVLJIVI IZVORI ENERGIJE U REPUBLICI HRVATSKOJ, Osijek, Hrvatska, pp. 147-153.
- Mago L.; Hajdu J.; Fenyvesi L. (2010): **Survey of biomass energy potentials of Hungarian agriculture**, Proceedings of the 38th International Symposium on Agricultural Engineering, Opatija, Croatia, 22-26 February 2010., pp 355-364
- Marchaim U. (1992): **Biogas processes for sustainable development**, Timski rad MIGAL Galilee Technological Centre Kiryat Shimona, Israel, FAO agricultural services bulletin, Vol. 95, pp. 34-42
- Muršec, B., Vindiš P., Lakota M., Stajanko, D. (2010.): **Laboratorijsko testiranje koruznih hibridov za bioplin**. 38. Symposium „Actual Tasks on Agricultural Engineering“, Opatija, Hrvatska, pp. 317-324
- Thompson, W.H. (ed.): (2001) **Test Methods for the Examination of Composting and Compost**. The United States Composting Council Research and Education Foundation. The United States Department of Agriculture,
- Špicnagel, A.; Puškarić, T.; Raymaekers, F.; Van Driessche J. (2014): **Potencijal bioplinskih postrojenja u hrvatskom poljoprivrednom sektoru**, Sisačko – moslavačka županija, Sisak, Hrvatska, pp. 96-114

**Prof. Saša Žiković, PhD**

Faculty of Economics University of Rijeka

I. Filipovica 4, Rijeka

Phone: 00385 51 355 111

E-mail address: szikovic@efri.hr

**Ivan Gržeta, MA**

Faculty of Economics University of Rijeka

I. Filipovica 4, Rijeka

Phone: 00385 51 355 111

E-mail address: igrzeta@efri.hr

**Kristina Kaštelan, MA**

Faculty of Economics University of Rijeka

I. Filipovica 4, Rijeka

Phone: 00385 51 355 111

E-mail address: kkastela@efri.hr

## **VIABILITY OF BIOMASS-FIRED POWER PLANTS IN CROATIA**

### **EKONOMSKA ODRŽIVOST ELEKTRANA NA BIOMASU U HRVATSKOJ**

#### ***ABSTRACT***

*Although the prices of fossil fuels are at historically low levels, the dependence on fossil fuels, the high volatility in their prices and the pursuit of sustainable economic development foster the drive to build power plants that use locally available and renewable energy sources. Among the more popular types of power plants using renewable energy sources, which have a great potential in the Slavonia region of Croatia, are the biomass-fired power plants. Instead of the traditional financial valuation methods such as net present value or internal rate of return we use the levelised cost of electricity (LCOE) method to calculate the profitability of biomass-fired power plants. It allows us to calculate the level of electricity prices at which a certain type of power plant is profitable. The purpose of this paper is to investigate the price level of electricity produced in biomass-fired power plants and to compare it with the wholesale prices and feed-in tariffs of electricity produced from biomass in Croatia. The LCOE offers an insight into the production cost of electricity by taking into account the investment costs, cost of capital, fixed and variable operations and maintenance costs and the cost of fuel. We perform the sensitivity analysis by varying the inputs in the LCOE formula. The main objective of this paper is to see whether it is viable to further subsidize power plants using biomass in Croatia, as a type of power plant using renewable energy sources. Based on the obtained LCOE figures, we can conclude that this type of renewable source fired power plant is the most expensive type and that its level of electricity prices is significantly above the market wholesale price. If Croatia wants to increase the production of electricity generated in biomass-fired power plants, it should be aware that these cannot function in the open market without continuous and significant feed-in tariffs.*

---

Financial support from the Croatian Science Foundation under Grant number IP-2013-11-2203 is gratefully acknowledged.

**Key words:** Levelised cost of electricity, LCOE, Biomass, Renewable energy, Croatia

## SAŽETAK

Iako su cijene fosilnih goriva na povijesno niskim razinama, ovisnost o fosilnim gorivima, volatilnost njihovih cijena i težnja za održivim ekonomskim razvojem su glavni razlog potrebe za izgradnjom elektrana koja koriste lokalno dostupne izvore energije. Jedna od popularnijih tipova elektrane koja koristi obnovljive izvore i koja ima veliki potencijal u Slavoniji je elektrana na biomasu. Umjesto tradicionalno korištenih metoda financijske evaluacije kao što su neto sadašnja vrijednosti ili interna stopa rentabilnosti, u radu se koristi metoda niveliranih troškova električne energije (LCOE) kako bi se izračunala isplativost elektrane na biomasu. LCOE metodom može se izračunati razina cijene električne energije pri kojoj je pojedina elektrana isplativa. Svrha ovog rada je istražiti razinu cijene pri kojoj elektrana na biomasu proizvodi električnu energiju, te je usporediti s veleprodajnim cijenama i povlaštenim cijenama električne energije u Hrvatskoj. Metoda niveliranih troškova električne energije nudi uvid u proizvodnu cijenu električne energije, uzimajući u obzir investicijski trošak, trošak kapitala, fiksne i varijabilne troškove rada i održavanja te trošak goriva. Analizu osjetljivosti provodimo promjenom ulaznih varijabli u formuli niveliranih troškova električne energije. Cilj istraživanja je doći do zaključka opravdanosti daljnjeg poticanja elektrane na biomasu od strane države, kao jednog od tipa elektrane koji koristi obnovljive izvore energije. Temeljem dobivenih rezultata možemo zaključiti da je ovaj tip elektrane na obnovljive izvore energije najskuplji i znatno odskae od tržišne veleprodajne cijene električne energije. Ukoliko Hrvatska želi povećati proizvodnju iz elektrana na biomasu, trebala bi biti svjesna da takav tip elektrane ne može funkcionirati na otvorenom tržištu bez kontinuiranih i značajnih poticajnih cijena.

**Ključne riječi:** Nivelirani trošak električne energije, LCOE, Biomasa, Obnovljivi izvori energije, Hrvatska

### 1. Introduction

The European Union energy policy is unequivocally moving towards renewable energy sources. In line with this, the Croatian Parliament ratified the Kyoto Protocol in 2007 by which it committed to reduce greenhouse gases emissions (GHG) (Parliament, 2007). The last Climate Change Conference held in Paris in 2015, has further strengthened the policy of renewable energy on a global scale. Namely, 195 countries agreed to limit global warming well below 2 °C in relation to the pre-industrial period (OECD, 2015).

The issue of the renewable energy sources' competitiveness in the open electricity market is certainly one of the main issues of energy policies at country, EU and global level. This paper analyzes the competitiveness of biomass power plants (BPPs) with respect to capital, operations and fuel costs, as well as the wholesale price of electricity and the state incentives provided by the Republic of Croatia.

### 2. The methodology for calculating the levelised cost of electricity

The levelised cost of electricity (LCOE) is used by investors, scientists and governments as an additional metric to compare and assess the cost-effectiveness of constructing electricity generating plants. This methodology is used to determine the electricity purchase price at which a power plant can be considered profitable. The biggest criticism of this approach is that it does not account for specific market and technological risks (e.g. uncertainty in fuel prices) nor for elements such as intermittency and the need for back-up power (Narbel et al., 2014).

The three main items in the LCOE calculation include capital expenses, operations and maintenance costs (fixed and variable), and the cost of fuel. The formula for calculating the levelised cost of electricity (LCOE) reads (NREL, 2015):

$$\text{LCOE} = \frac{(\text{capex} - \text{CRF}) + f\text{O\&M}}{8760 \cdot \text{capfactor}} + (\text{flcost} * \text{hrate}) + \text{varO\&M} \quad (1)$$

where: *capex* – capital cost (€/kW); *CRF* – capital recovery factor; *fO&M* – fixed operations and maintenance costs (€/kW a year); *capfactor* – capacity factor (%); *flcost* – fuel costs (€/MMBtu); *hrate* – heat rate (Btu/kWh) and *varO&M* – variable operations and maintenance costs (€/kWh)

Each project for building a power plant starts with capital costs. Capital costs include (EIA, 2013):

- Direct construction costs, as well as pre-construction costs –various permits, environmental impact studies etc.
- Indirect costs such as administrative costs that cannot be classified as direct costs
- Equity investment

The fixed O&M costs are those related to plant’s day-to day operations, and they are not significantly dependent of the amount of generated electricity. These include the following categories (EIA, 2013):

- Staff and fees under operating agreements
- Preventive and corrective maintenance costs for equipment, including necessary maintenance tools (rented and owned)
- General and administrative expenses (postage, telephone, etc.)
- Maintenance of structures and the surrounding terrain

The variable cost of maintenance is the cost that is associated with the amount of electricity generated and includes the following categories, as applicable to the given type of power plant (EIA, 2013):

- Raw water
- Waste and wastewater disposal costs
- Chemicals, catalysts, gases, ammonia (NH<sub>3</sub>), etc.
- Lubricants
- Supplies and accessories

The capacity factor is the amount of electricity generated during a given time divided by the amount of electricity that could be generated in circumstances in which the power plant would operate at full power i.e. 100% or 8, 760 hours per year.

The cost of fuel is expressed in Euro per MMBtu. MMBtu stands for one million British thermal units (EnergyVortex, 2015).

The heat rate is expressed in Btu per kWh, and represents the power plant’s efficiency in converting fuel into heat i.e. the amount of energy used to produce 1 kWh of electricity (EIA, 2015).

The first step in calculating the LCOE is to calculate the CRF i.e. the capital recovery factor:

$$\text{CRF} = \frac{i \cdot (1+i)^n}{(1+i)^n - 1} \quad (2)$$

where  $i$  is the discount rate (%) and  $n$  the number of received annuities (power plant lifetime in years)

The CRF represents the share in the power plant costs that has to be covered by revenues each year of the plant's working life in order for the entire project to be covered at the end of the power plant's life. According to the International Energy Agency (IEA), the lifetime of a BPP is 30 years. Instead of the 30 years, a stricter criterion (20 years) will be taken into the calculation, as this is the amount of years taken to assess the viability of power plants fired on gas, coal, nuclear power, etc.

The IEA (2015) uses 3%, 7% and 10% discount rates when calculating the LCOE. The 3% rate represents the social cost of capital i.e. the discount rate to be used to assess projects of social importance such as roads, schools, environmental protection etc. The 7% rate represents the market interest rate i.e. the required rate of return on investment in normal circumstances, while the 10% rate, the required rate of return on investment in high-risk markets. In this paper we use a 5% discount rate averaging, in this way, the social cost (3%) and the market cost (7%) of capital.

The inputs in the sensitivity analysis include a 10% decrease / increase in costs, the capacity factor, heat rate and energy sources.

### 3. Biomass-fired power plants

Biomass is defined as any plant matter that can be used in energy production. Biomass can be solid (straw, wood), liquid (vegetable oil) or gaseous (biogas created due to the degradation of biological waste) (Narbel et al., 2014). Power plants using solid biomass are present in over 50 countries, and their share in total generated electricity is increasing each year. Even though the BPPs are not one of the most popular sources of electricity, their share is not imperceptible. In some countries, such as Sweden, energy generated from biomass exceeds that from oil (Narbel et al., 2014).

The cost of BPPs depends on the type of technology, the fuel, the size and location. Since solid biomass is the most widely used fuel in the production of electricity and heat, it will be used in calculating the LCOE in this paper. The capital cost of a solid BPP varies widely, depending on the size and technology, and ranges between 3, 300 €/kW (bigger BPPs) in the Netherlands or Spain and 6,146 €/kW (smaller BPPs) in Italy (IEA, 2015). The fixed operations and maintenance costs are around 315 €/kW per year and the variable costs are around 15.5 €/MWh (EIA, 2013). The capacity factor is relatively high (65% to 86% in European countries) considering that we are dealing with renewable sources (IEA, 2015). The heat rate varies around 12,350 Btu/kWh. (EIA, 2013). The cost of the solid biomass is formed on the basis of the ARA market price (Amsterdam-Rotterdam-Antwerp). The market prices of pellets and wood chips in our calculations are taken from the publication *Argus Biomass Markets*. The purchase price of biomass (pellets and wood chips) varies considerably. According to *Argus Biomass Markets* the price of pellets ranges from 150 to 125 euros per tonne. If a tonne of biomass is equivalent to 17 MMBtu-s, the price of pellets in Europe amounts to 8.94 €/MMBtu (Center for Transportation Analysis, 2015). The price of industrial wood chips in America is around 6 €/GJ. If we know that a GJ is 0.948 MMBtu, the price of wood chips amounts to 6.33 €/MMBtu (North Carolina Cooperative Extension Service, 2008). Since *Argus* does not include wood chips prices for Europe, knowing that the prices of pellets are approximately the same in Europe and USA, we also used 6.33 €/MMBtu for the price of wood

chips. Assuming that BPPs are fired equally on chips and pellets, the average price of solid biomass in Europe is around 7.64 €/MMBtu. The LCOE for BPPs in eastern Croatia is calculated based on the available data for 0.2 MW sized BPPs in Europe and the US. The following table presents the LCOE calculations for BPPs with and without fuel costs.

**Table 1** Levelised cost of electricity from biomass-fired power plants in Europe, in EUR

Scenario	LCOE with fuel costs			LCOE without fuel costs		
	worst	expected	best	worst	expected	best
Size (MW)	0.2	0.2	0.2	0.2	0.2	0.2
<b>Finances</b>						
r (years)	20	20	20	20	20	20
Discount rate (%)	5%	5%	5%	5%	5%	5%
<b>Costs</b>						
Capital cost (€/kW)	6,761	6,146	5,531	6,761	6,146	5,531
Capacity factor	77.4%	86.0%	94.6%	77.4%	86.0%	94.6%
Fixed O&M costs (€/kW per year)	346.5	315.0	283.5	346.5	315.0	283.5
Variable O&M costs (€/MWh)	17.1	15.5	14.0	17.1	15.5	14.0
Heat rate (Btu/kWh)	13,585	12,350	11,115			
Fuel costs (€/MMBTu)	8.40	7.64	6.88			
<b>Result</b>						
<b>LCOE (€/MWh)</b>	<b>262.33</b>	<b>217.13</b>	<b>178.15</b>	<b>148.16</b>	<b>122.78</b>	<b>101.72</b>

Source: Authors' calculations

As can be seen from the table, the expected/average price of electricity generated by a 0.2 MW sized BPP in Croatia amounts to 217.13 €/MWh (worst 262.33 and best 178.15 €/MWh). The cost of fuel represents a major proportion of the final levelised cost of electricity. If fuel cost are exempted, the levelised cost of electricity falls to 122.78 €/MWh (worst 148.16 €/MWh and best 101.72 €/MWh).

#### 4. Croatian electricity market

Since 2013, the Croatian electricity market has been organized as a bilateral market i.e. the trade in electricity is conducted based on bilateral agreements between the supplier and the dealer or manufacturer. As there are deviations between realized and scheduled values in bilateral supply contracts and electricity trade contracts, there is a need for balancing energy. The Croatian Energy Market Operator Market (HROTE) publishes and determines the referent balancing energy prices calculated as an average of the wholesale prices on the Hungarian and Slovenian Stock Exchanges. The wholesale electricity prices in Croatia, according to data from the Energy Regulators Regional Association (ERRA) ranged between 54.69 €/MWh in 2013 and 51 €/MWh in 2014 without VAT. According to the latest data available in the second quarter of 2015, wholesale electricity prices excluding VAT amounted to 51.47 €/MWh.

The wholesale prices in Croatia are in line with the ELIX wholesale prices, where the average price of electricity by the end of 2010 amounts to 41.82 €/MWh. If we exclude the outliers (5%), the highest price is 60.91 €/MWh and the lowest, 17.77 €/MWh. The ELIX index integrates the European electricity market which covers 36% of the electricity consumption of the entire European Union (Austria, Germany, Switzerland). The national rates defined in these markets are widely used as a referent prices for the entire European electricity market (EEX, 2015).

According to the tariff system for electricity generation and cogeneration from renewable energy sources, the preferential purchase prices for production plants using renewable energy sources for



electricity generation connected to a transmission or distribution network vary depending on the type of plant (Official Gazette 133/2013.) The purchase price of electricity is adjusted for inflation annually, and the preferential redemption price for the production of electricity from renewable energy sources and cogeneration lasts 14 years (RES-LEGAL, 2015).

In line with the European Commission directive, as of January 1 2016, Croatia introduced the market premium as an incentive to build power plants on renewable energy sources. The market premium is an incentive i.e. an amount of money that the operator of the electricity market pays the preferential producer of electricity for net electricity delivered from the production plant or production units in the power network (Official Gazette (OG) 100/2015). According to this model, the preferential producer needs to find and sign a contract with a buyer willing to pay the market price for the delivered electricity, while HROTE pays only the premium i.e. the difference between the wholesale price and the averaged production cost of electricity from renewable energy sources (OG 100/2015).

The market premium (MP<sub>r</sub>) for each manufacturing facility or production unit in the accounting period is calculated as (OG 100/2015):

$$MP_r = RV - EMP \tag{3}$$

where *EMP* is the referent market price of electricity within a calculating period expressed in HRK/kWh, and *RV* the referent value of electricity established by the contract on market premium expressed in HRK/kWh.

The maximal referent value of electricity and the maximal referent market price of electricity are determined by the electricity market operator. The market premiums will certainly ease the budgetary burden of the subsidies for electricity generation more than the feed-in tariffs from the previous model. The preferential redemption prices of electricity from BPPs in Croatia depends on the size of the plant. The redemption price for a 0.2.MW sized BPP is 203 €/MWh and it decreases with the increase in BPP size.

**Table 2** *The preferential redemption prices of electricity from BPPs in Croatia, in €/MWh*

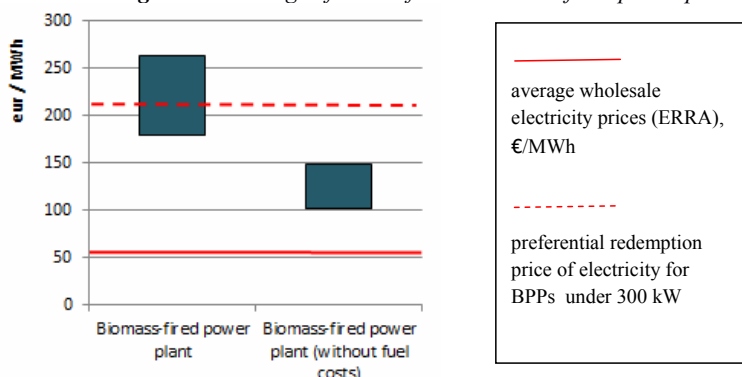
	Croatia
Biomass-fired power plant	€/MWh
- up to 300 kW	203
- 300 kW - 2 MW	195
- 2 MW - 5 MW	187
- over 5 MW	70

Source: RES-LEGAL

## 5. The economic viability of biomass-fired power plants in Croatia

The LCOE for a small power plant (0.2 MW) on solid biomass, based on the EIA and IEA available data for Europe and the USA respectively, is between 178 and 236 €/MWh and it depends on the capital, fixed and variable costs and the movement of fuel prices. With the current preferential redemption price, this type of power plant is cost-effective only for the period of preferential redemption i.e. the first 14 years of exploitation. Considering that the average wholesale price excluding VAT in the Republic of Croatia amounts to 51.47 €/MWh and that in Europe, it ranges from 17.77 to 60.91 €/MWh, this type of power plant will be undeniably unsustainable on the open electricity market after the preferential redemption period. Moreover, even in a hypothetical case in which the power plant does not need to buy wood chips and/or pellets as it is fired on by-products which are in this way disposed of, even then, this type of plant is not viable in the open electricity market. The figure below gives the range of LCOE for BPPs and electricity prices.

**Figure 1** The range of LCOE for the biomass-fired power plants in Croatia



Source: Authors

The blue bars show the range of LCOE for BPPs with and without the cost of fuel. As already mentioned, in addition to fuel costs the LCOE also depends on capital costs, operations and maintenance costs, and the heat rate. The full red line represents the wholesale (market) price of electricity on the Croatian territory, while the red dotted line represents the preferential redemption price of electricity for BPPs below 300 kW. By increasing the heat rate and reducing the initial high capital costs, a small BPP gains on competitiveness during time, but at the moment, it is still far from achieving the wholesale market price of electricity.

Taking all the above mentioned into account, a BPP is not competitive at the current market price of electricity. Even with incentive prices, given their size, BPPs are only marginally viable. Based on the results, we can conclude that this type of power plant is extremely expensive and that its prices of electricity significantly surpass the wholesale market price. This large difference in the production price of electricity has to be covered from the already depleted Croatian budget. Therefore, if Croatia wants to increase electricity generation from BPPs, it should be aware that this type of plant cannot operate on the open market without a continuous and significant price incentive.

## 6. Conclusion

In this paper we analyze the market wholesale prices, preferential redemption price of electricity and levelised cost of electricity for BPPs. The necessary variables for calculating the levelised cost for BPPs were calculated based on the already existing variables for small BPPs in Europe .

The price of pellets in Europe is around 150 euros per tonne and knowing that a tonne of biomass is 17 MMBtu-s, the calculated price of pellets in Europe amounts to 8.94 €/MMBtu. The price of industrial wood chips in the United States is around 6.33 euro / MMBtu. Since the data on the cost of wood chips in Europe are not available, and the fact that the prices of pellets are approximately the same in Europe and the USA, the price of wood chips is also assumed to be the same. Assuming that BPPs are fired equally on chips and pellets, the average price of solid biomass in Europe is around 7.64 €/MMBtu. The average price of electricity generated by 0.2 MW sized BPPs in Croatia amounts to 217.13 €/MWh. This price according to the worst case and best case scenarios amounted to 262.33 and 178.15 €/MWh respectively. The cost of fuel represents a major proportion of the final levelised cost of electricity. If fuel cost are exempted, the levelised cost falls to 122.78 €/MWh. Here this price according to the worst case and best case scenarios amounted to 148.16 €/MWh and 101.72 €/MWh. Based on the IEA and EIA available data, the LCOE for a small power

plant (0.2 MW) on solid biomass is between 178 and 236 €/MWh. These values vary depending on the capital costs, fixed and variable operations and maintenance costs and fuel prices. With the current preferential redemption price, this type of power plant is cost-effective only for the first 14 years of exploitation i.e. the period during which it receives preferential redemption. In view of the fact that the average wholesale price excluding VAT in the Republic of Croatia amounts to 51.47 €/MWh, this type of power plant will be undeniably unsustainable on the open electricity market after the preferential redemption period. This type of plant is not viable in the open electricity market even in cases when it does not need to buy wood chips and/or pellets as it is fired on by-products which are in this way disposed of.

However, investments in this type of power plant may be profitable if the investors/owners were active in the timber industry and would in this way dispose of surplus wood by-products, while at the same time collect preferential redemption premiums. Their power plants would operate with extra profit for the first 14 years, after which, the generated electricity would be used for their own needs. Further incentives aimed for the construction of BPPs by the state are questionable for several reasons. First, other forms of renewable energy sources are more attractive to investors, which is confirmed by the amount of newly-installed electricity generating capacities fired on renewable sources other than biomass. Secondly, according to the Tariff System in Croatia, the redemption of electricity from biomass and solar power is the most expensive for the state. Although the introduction of premiums relieves the budget as a part of the electricity price is paid by the buyer on the basis of market prices, the residual value still has to be covered by the state. Further incentives for electricity production from BPPs could be corrected in a manner to reduce the amount of the guaranteed prices which would in turn reduce the potential high cost of electricity for the state and in this way force investors to use modern technologies or to turn to cogeneration. Further maintaining such high preferential redemption prices makes no sense given that Croatia is at the very top in the production of electricity from renewable energy sources among EU members.

## REFERENCES

- Argus Biomass Markets (2015.): *Weekly biomass markets news and analysis*, Issue 15-002
- Center for Transportation Analysis, (2015.): *Most Commonly Used Biomass Conversion Factors*, [http://cta.ornl.gov/bedb/appendix\\_a/Most\\_Commonly\\_Used\\_Energy\\_Unit\\_Conversions.pdf](http://cta.ornl.gov/bedb/appendix_a/Most_Commonly_Used_Energy_Unit_Conversions.pdf)
- CNB, (2016): *FX rates*, <http://www.hnb.hr/tecajn/>
- EEX, (2010.): *ELIX – The new European Electricity Index launched by EPEX Spot and EEX*, <https://www.eex.com/en/about/newsroom/news-detail/elix---the-new-european-electricity-index-launched-by-epex-spot-and-eex/58488>
- EnergyVortex (2016.), *British Thermal Unit (BTU)*, [https://www.energyvortex.com/energydictionary/british\\_thermal\\_unit\\_%28btu%29\\_mbtu\\_mmbtu.html](https://www.energyvortex.com/energydictionary/british_thermal_unit_%28btu%29_mbtu_mmbtu.html)
- Eurostat, (2015.), *Renewable energy statistics*, [http://ec.europa.eu/eurostat/statistics-explained/index.php/Renewable\\_energy\\_statistics](http://ec.europa.eu/eurostat/statistics-explained/index.php/Renewable_energy_statistics)
- International Energy Agency, (2015.), *Projected Costs of Generating Electricity*
- Narodne novine (Official Gazette) (NN 133/2013), *Tarifni sustav za proizvodnju električne energije iz obnovljivih izvora energije i kogeneracije*

Narodne novine (Official Gazette) (NN 100/15), **Zakon o obnovljivim izvorima energije i visokoučinkovitoj kogeneraciji**

Narodne novine (Official Gazette) (NN 102/15), **Zakon o tržištu električne energije**

Narbel Patrick A. et al. (2014.): **Energy Technologies and Economics**, Springer International Publishing

North Carolina Cooperative Extension Service (2008.), **Conversion Factors for Bioenergy**, <http://content.ces.ncsu.edu/conversion-factors-for-bioenergy>

NREL (2016.): **Simple Levelized Cost of Energy (LCOE) Calculator Documentation**, [http://www.nrel.gov/analysis/tech\\_lcoe\\_documentation.html](http://www.nrel.gov/analysis/tech_lcoe_documentation.html)

OECD (2015.): **Statement by the OECD Secretary-General Angel Gurría on COP21 Agreement**, <http://www.oecd.org/environment/statement-by-oecd-secretary-general-angel-gurria-on-cop21-agreement.htm>

RES-LEGAL (2016): **Legal sources on renewable energy by country**, <http://www.res-legal.eu/en/search-by-country/>

Sabor (Parliament) (2007.): **Prijedlog zakona o potvrđivanju Kyotoskog protokola uz okvirnu konvenciju Ujedinjenih naroda o promjeni klime, s konačnim prijedlogom Zakona**, <http://www.sabor.hr/Default.aspx?art=13167>

US Energy Information Administration (2013): **Updated Capital Cost Estimates for Utility Scale Electricity Generating Plants**



**Društveno  
odgovorno  
poduzetništvo**

**Social responsible  
entrepreneurship**

**Ph.D. Ljerka Cerović, Full Professor**

Faculty of Economics, University of Rijeka  
Ivana Filipovića 4, 51000 Rijeka, Croatia  
Phone: 00 385 51 355 147 Fax: 00 385 51 212 268  
E-mail address: cerovic@efri.hr

**Ph.D. Nikolina Dukić Samaržija, Postdoctoral Research Assistant**

Faculty of Economics, University of Rijeka  
Ivana Filipovića 4, 51000 Rijeka, Croatia  
Phone: 00 385 51 355 184 Fax: 00 385 51 212 268  
E-mail address: ndukic@efri.hr

**Lidija Prša, B.sc., M.A. student**

Faculty of Economics, University of Rijeka  
Ivana Filipovića 4, 51000 Rijeka, Croatia  
E-mail address: lidijap1508@gmail.com

## **PREVENTIVE HEALTHCARE AND ITS ECONOMIC IMPLICATIONS<sup>1</sup>**

### **PREVENTIVNA ZDRAVSTVENA ZAŠTITA I NJEZINE EKONOMSKE IMPLIKACIJE**

#### **ABSTRACT**

*Economically speaking, health is our most valuable possession. Almost every country in the world has a publicly funded healthcare system designed with the aim of preserving and promoting human health. The common issues of healthcare systems around the world are limited resources, ensuring equitable resource allocation and the awareness that healthcare is very expensive, as evidenced by a growth in national health expenditures in almost all countries of the world. Rapidly increasing incidence and prevalence of chronic diseases imposes additional burden on healthcare systems and national economies. This implies inefficient use of public health services, increased costs associated with clinical treatment of diseases and the cost of lost productivity due to inability of work and absenteeism. In view of the above, the aim of this paper is to underline the importance of the development and implementation of preventive healthcare programs at the national level and to confirm that prevention is several times more cost-effective than clinical treatment.*

**Keywords:** Health, Prevention, Resource Scarcity, Public Health System, Efficiency

#### **SAŽETAK**

*Ekonomski gledano, zdravlje je najvrjednije dobro, stoga su gotovo sve zemlje razvile javne zdravstvene sustave koji se brinu o zdravlju i promociji zdravlja. Problem svih zdravstvenih sustava je ograničenost resursa, pravednost alokacije tih resursa te spoznaja da je zdravlje vrlo skupo, što dokazuje rastući trend nacionalnih izdataka za zdravlje gotovo svih zemalja svijeta. Dodatan teret na zdravstvene sustave i nacionalne ekonomije čini ubrzan razvoj i sve veća raširenost kroničnih*

---

<sup>1</sup> This paper was created as part of the project of University of Rijeka: "Concepts and methods of cost and management accounting in the public sector of Croatia", no. 081-0811272-1276

*bolesti. Spomenuto implicira neracionalnu potrošnju usluga javnog zdravstva, povećane troškove povezane s kliničkim liječenjem bolesti te troškove smanjene produktivnosti zbog nesposobnosti obavljanja posla i apsentizma. S obzirom na spomenuto, cilj ovog rada je ukazati na važnost razvoja i implementacije programa preventivne zdravstvene zaštite na razinama nacionalnih zdravstvenih sustava te potvrditi da je prevencija višestruko isplativija od kliničkog liječenja.*

**Ključne riječi:** *zdravlje, prevencija, ograničenost resursa, javno zdravstveni sustav, efikasnost*

## **1. Introduction**

This paper will present the relationship between health and social well-being, and point to the specifics of healthcare markets which require government interventions. Furthermore, the paper will emphasize the importance of implementation of preventive healthcare programs, and offer practical evidence to appraise the justification of the implementation of preventive public healthcare programs. The aim of this paper is focused on the hypothesis that prevention is the best choice when it comes to cost reduction and rationalisation of consumption of public health services and confronting the chronic disease burden to increase social welfare, thereby increasing economic benefits of having a healthy population. Only by investing in cost-effective preventive public healthcare programs, it is possible to achieve an efficient consumption of public health services. The paper also gives a brief overview of the healthcare system of the Republic of Croatia, and highlights the main weaknesses of preventive healthcare in Croatia through examples of national preventive programs. Finally, the paper gives guidelines for the development of an effective preventive healthcare system in Croatia.

## **2. Public health service and the role of preventive healthcare**

Modern public health practice appears in the middle of the 20th century in the United States. The focus of public health is to improve health at the community level, as progress is achieved through health education, control of infectious diseases, improved implementation of healthcare measures as well as management and control of environmental hazards. The fact that almost each country has a ministry in charge of health promotion demonstrates the importance of public health in people's everyday lives (Santerre & Neun, 2010). Countries, therefore, are developing different public health policies and programs in order to ensure social stability, prosperity and social well-being.

### **2.1. Health and social welfare**

Economics of health is focused on the allocation of healthcare resources and the distribution of medical services in society (Santerre & Neun, 2010). Basically the problem is that, on the one hand, human wants or needs may be regarded as limitless, and, on the other hand, resources are limited. This issue is particularly noticeable in healthcare and is an especially complex matter due to growing expectations of people with regard to healthcare benefits, a continuous development in medical science and technology in the medical field, an increase in health needs and an increasing elderly population that places new demands on healthcare. The big challenge in this area is to identify the most important determinants of ensuring good health in society, characterized by two elements: efficiency and fairness, which have a social welfare function and are particularly important in economy. Both aspects of welfare should be taken into account in political decision-making processes when determining methods and the degree of state intervention in a healthcare system. It is also clear that there is a need for compromise between efficient and fair allocation of resources.

The efficiency concept tends to find the feasible allocation of limited resources that maximizes benefits for society. Efficiency is often referred to as an effective way to make saving that is expected to maintain the same level of output while reducing the level of costs, or to produce more output with the same level of inputs. This type of efficiency is known as technical or operational efficiency or cost-effectiveness. It is necessary to make a choice between alternatives that have the same goal; maximum output at a given cost, or minimal cost at a given production output. However, the technical efficiency is not sufficient to determine priorities in healthcare systems. It is necessary to take account of the allocative efficiency which exists (in theory) when it is impossible to make any one individual better off without making at least one individual worse off, also known as Pareto efficiency. However in practice, there are situations in which reallocation of resources may increase the welfare of at least one individual but at the same time the welfare (utility) of at least one individual decreases. Improvement is made if the gainers compensate the losers for their welfare losses and still have some net gain. This situation implies social efficiency.

In addition to an efficient allocation of resources it is necessary to take into account the fairness of income distribution. Striving Pareto optimum can result in redistribution of income in favour of wealthier individuals, which is not acceptable under the foundations of justice (Phillips, 2005). Most of the healthcare systems use a combination of liberal and egalitarian values, or a combination of mechanisms of corrective state policy. The concept of fairness is inextricably linked with the concepts of justice and equity, but it is also important to emphasize the concept of equality. Fairness can be achieved through policies that establish equality of opportunity and access to healthcare. It is necessary to distinguish between horizontal and vertical equity. Horizontal equity means "the equal treatment of equals", while vertical equity refers to "the unequal treatment of unequals". In other words, distribution is equal if people with similar needs receive similar treatment. On the other hand, it is unequal if people with different needs receive similar treatment. Thus, horizontal equity involves establishing reference points of equity which may relate to equality of access and use of resources, and equal opportunities for people with equal needs (Phillips, 2005).

From the foregoing, it is evident that the fundamental goals of public healthcare are efficiency and fairness. However, pursuing a more equitable resource allocation will lead to scarifying a certain degree of efficiency, or in other words, attempting to achieve a more efficient healthcare system will cause inequality in access to healthcare.

## **2.2. Specific economic characteristics of healthcare markets**

Healthcare markets involve a number of goods and services, with a focus on services, which tend to maintain, improve and complete human health. Due to the heterogeneous and intangible nature of healthcare market, it is difficult to accurately measure and quantify its units. Healthcare is different from pure economic good primarily in terms of the following characteristics: intangibility (impossible to see, hear, taste or touch), inseparability (production and consumption of health services occur together) and inventory (impossible to accumulate or keep inventory of health services) (Santerre & Neun, 2010, according to Berkowitz, Kerin, Rudelius, 1989).

Furthermore, the quality of health services is also difficult to measure. Differences in quality are most often expressed in the structure, process and / or the results of healthcare services (Santerre & Neun 2010, according to Donabedian, 1980, 1988). Structural quality is reflected in physical and other resources of medical services including facilities, medical equipment, staff and administration. Process quality refers to specific actions within the scope of health services that are undertaken for the benefit of patients. This type of quality includes access to health services, information, communication with patients, diagnosis and treatment. Quality of the results basically means the



effect of treatment on the patient's health and well-being, and is measured by utility, working hours lost due to illness, mortality after treatment and the like. Since it is very difficult to maintain all three aspects of quality constant for every medical case, the quality of health services is, unlike other goods, susceptible to inconsistencies (Santerre & Neun, 2010).

Healthcare market is different from other markets also in terms of imperfect information between consumers and producers of these services. This primarily means an insufficient level of knowledge of patients about diagnosis and treatment methods, relying on the opinion of medical professionals, uncertainty about disease and treatment results, competence of physicians and medical service costs (Feldstein, 2012). The good that consumers need in these cases is the information. Patients are not able to assess the quality of service before buying the same, as it would require that patients already have the requested information. In so doing healthcare providers (physicians) have an information advantage that gives them a degree of power over healthcare users. Patients who seek for medical attention only know they need a specific treatment because they are dissatisfied with the current state of health, so the choice of treatment is transferred to a physician who is better informed of them, and the physician-patient relationship becomes an agent-principal relationship. The patient has to decide whether or not to accept the recommendations of a physician. However the patient's decision is not absolute having in mind that the patient's trust in the physician is an important prerequisite for successful treatment. The demand curve, therefore, which describes the amount of the planned use of healthcare services at given prices, mainly reflects the decisions of physicians (supply), not patients (demand). It can therefore be concluded that the demand for healthcare services can be created by the supply (physicians) (Zweifel, Breyer, Kifman, 2009).

No adverse effects of the supply that creates its own demand for medical services appear until physicians are perfect agents of their patients, or in other words until physicians choose what patients would choose themselves if they possessed the necessary knowledge. The problem arises when physicians make decisions that are driven by their self-interest. If physicians systematically change the information they provide to their patients for their own benefit, then the demand created by the supply becomes supplier-induced demand (SID). It should be noted that the essential assumption of the supplier-induced demand model is patient's full health insurance coverage, so the demand does not depend on the price.

Government has the major role to ensure a minimum level of service quality and prevent negative effects of the supplier-induced demand, as well as to ensure a fair allocation of health services. Given that a healthy population is one of the assumptions of social welfare, government interventions in healthcare markets are frequent. The state has an important role in the provision and financing of health services, as well as the regulation of healthcare markets. State funding is manifested through various forms of subsidies for medical research, training of medical staff, building hospitals, and more. Within its regulatory role, the state sets out rules by which to charge health services and the rules by which they are produced through various licensing mechanisms (Feldstein, 2012). With such interventions in the market the government seeks to ensure protection of patients, or its citizens.

### **2.3. Cost of chronic diseases and the importance of prevention in rationalizing the consumption of public health service**

Chronic diseases such as cancer, diabetes, heart disease, high blood pressure, mental disorders and various lung diseases have reached global proportions. Such conditions, except that shorten life and contribute to the reduction of quality of life, are also a burden on the public healthcare system and economy in general. There are certain economic implications of chronic diseases that can be viewed at the microeconomic and macroeconomic level.

Microeconomics examines the impact of chronic diseases on individuals and households. Areas in which chronic diseases are affecting the economy are consumption and savings, work and productivity, and education. Negative impacts of chronic diseases and risk factors on work and productivity are reflected in labour-force participation rate, decreased number of working hours, workforce fluctuation, early retirement, paying lower wages (e.g. to smokers), lower earnings and inability to advance at work (Busse et al., 2010). Furthermore, there is evidence that chronic diseases affect educational performance. Several studies have indicated a relationship between smoking during pregnancy and reduced cognitive and social development of the child, which ultimately affects the academic performance of the child (Busse et al., 2010, according to Ernst, Moolchan, Robinson, 2001). Obese children tend to have low self-esteem. The stigmatization of obese children can lead to children not wanting to go to school, resulting in poor academic performance (Busse et al., 2010, according to Latner & Stunkard, 2003; Hayden-Wade et al., 2005). The negative impact of chronic diseases on work and productivity and education is more pronounced in low and middle income countries. In Europe, that impact is reduced through different types of health insurance, but the consequences of chronic diseases are still negative when it comes to labour, productivity and human capital accumulation.

A macroeconomic prospect examines the overall effect of chronic diseases with regard to the growth rate of gross domestic product (GDP). According to research by Marc Suhrcke from the World Health Organization and Dieter M. Urban from the Institute for International Economic Theory (2006), the cost of high-risk disease has an impact on the country's GDP in the range of 0.02% to 6.77%. They came to these conclusions by observing global impact of cardiovascular diseases on economic development among the working population. They also found out that an increase in mortality of 1% in developed countries can reduce the growth rate of GDP per capita in the next year by 0.1%. It may not seem a strong influence on growth, but it becomes very important in looking at long-term impact (Busse et al., 2010).

Considering the increasing number of people with chronic diseases and their negative consequences, there is a need of prevention as one of the best ways to confront the chronic disease burden. Prevention is becoming increasingly important in ensuring health, and thus increasing social welfare. Healthcare systems that are designed to provide access to preventive health services can reduce health costs and improve health in the long run.

When speaking of prevention, it is important to distinguish between primary and secondary prevention. Primary prevention includes activities aimed to prevent the incidence of disease by reducing the risk of disease occurrence. Primary prevention means a healthy lifestyle and immunization (acquired immunity induced by a vaccine). Secondary prevention seeks to identify diseases in their early stages, before symptoms develop, minimizing the impact of disease. Secondary prevention may include blood pressure measurement to detect hypertension, cancer screening and other diseases (Warner, 1979).

The goal of prevention is to prevent the occurrence of disease thereby decreasing the demand for medical treatment services associated with high cost of treatment, which is particularly important in today's economic crisis. Within the context of the rising costs of healthcare services and their rationalization, prevention is considered a cost-effective measure considering that it offers a possibility of buying larger amount of health, at a given amount of money, through preventive healthcare than through clinical treatment. Moreover, prevention has proved as a means of reducing public healthcare costs having in mind that investing in prevention today can eliminate the

occurrence of future expenditures for more expensive clinical treatment of diseases (Public Health Agency of Canada, 2009).

### **3. Economic implications of chronic disease prevention - case studies of public health systems in developing countries**

Since life expectancy is increasing every day, it is necessary to constantly increase the quality of life in all its stages. Given the challenges of modern times and increasing development of chronic diseases, the developed countries of Europe and the world have been implementing various programs of preventive healthcare. However, in selecting the programs and policies it is important to consider the costs and benefits of each preventive program, or to make a choice between various measures and choose the most efficient ones (taking into account their effectiveness). So, often the question is just how effective prevention is.

Healthcare measures such as prevention have a special economic importance, as confirmed by various studies on chronic disease prevention (OECD, 2011). Poor health (disease) is a burden for the economy and society. Preventive healthcare programs can significantly reduce the risk of chronic disease and the disease-related public health burden. This is particularly pronounced in obesity and diabetes (Foresight, 2007). For example, the economic cost of obesity in the Republic of Ireland is 2.7 billion Euros (Boland & Murphy, 2012, the Report of the Working Group on Obesity, 2005).

Health, in addition to be a basic human need, is also an economic good (Waitzkin, 2003), which generates many economic benefits such as higher productivity, better supply of the labour market, better working skills, and significant savings in the form of return on investment in physical and intellectual capital (Suhrccke et al., 2006). Preventive measures and activities tend to generate significant health benefits, and their cost-effectiveness is manifested by reducing hospital treatment costs. According to the National Social Marketing Centre (2006) in the United Kingdom, improvement of health quality through preventive programs by 1%<sup>2</sup> would result in reduction of costs of a public health system in the amount of 190 million pounds, while reducing mortality and preventing the incidence of the disease in young population.

Investment in health is not a synonym for improvement of health. For example, investment in public health per capita is the highest in the United States, but when it comes to the results, the US health lags behind many industrialized countries (Benson et al., 2008). This is where prevention comes into play as the goal of investing in public healthcare should not be medical care, but the health of individuals and populations (Boland & Murphy, 2012). The goal of health programs, activities and procedures should include healthy life years, quality of life and the elimination of differences in access to healthcare services. Various preventive policies and programs have proven to be effective as they may reduce costs of a public health system and increase productivity. The National Prevention Council (2011) in the United States suggests several examples of the impact of preventive measures on reducing costs of a public health system:

- a potential savings of US\$ 350,000 for every prevented infection with HIV;
- a 5% reduction in prevalence and risk factors of elevated blood pressure will save US\$ 25 billion over a period of 5 years;
- every dollar invested in out-hospital based educational programs will save 2 to 3 US\$ of hospital costs;
- for every dollar invested in the prevention of diabetes among women we can save US\$ 1.86;

---

<sup>2</sup> According to the Generic Visual Analogue Scale of Health State (range of 0-100%), where 0% indicates the worst possible state of health (death), and the 100% means best possible state of health or perfect health (Chatterjee, 2008).

- medical expenses are reduced by approximately US\$ 3.27 for every dollar invested in health promotion in the workplace.

These examples reveal the need for implementation of prevention in public healthcare systems to maximize economic value of public health. Many countries have already recognized the benefits of prevention and accordingly, they have created their public health policies. However, due to growing costs of healthcare and limited financial resources, as already discussed, it is necessary to take into account the cost-effectiveness of healthcare programs.

#### **4. Guidelines and recommendations for an effective preventive healthcare system in Croatia**

The paper continues with a brief overview of the basic characteristics of Croatian public healthcare system and offers an example of the national preventive program which reveals the weaknesses of preventive healthcare. Finally, the paper offers summarized recommendations for improving the effectiveness of preventive healthcare focusing on major weaknesses of the system.

##### **4.1. Characteristics of Croatian public healthcare system**

The main objective of Croatia's health policy is the extension of expected lifespan and improvement of quality of life. All citizens of the Republic of Croatia have equal right to public healthcare services that are organized in a way to be equally available to all. Social goals to enable subsidies to flow from healthy to sick, from rich to poor, from young to old, and individuals to families are achieved through compulsory health insurance. Healthcare is organized at several levels. The first level involves polyclinics, general and county hospitals and specialized hospitals, which are usually privately owned or owned by the counties. The second level consists of clinics, clinical hospitals and clinical hospital centres, which are owned by the state. The most important institutions of Croatian public health are the Ministry of Health, the Croatian Institute for Health Insurance and Croatian Institute for Public Health (Ostojić, Bilas, Franc, 2012).

The country owes its rich history in the field of medicine and healthcare to Dr. Andrija Štampar who is considered the leading public health expert of the 20th century. However, the Croatian healthcare system has undergone many reforms given the long history of independence and non-sovereignty of the country. The latest reforms of the system started in 2001 by signing the Stabilization and Association Agreement (SAA) with the EU. These reforms are aimed at harmonization of Croatian health policy with EU policies. However, despite the extensive reforms significant problems remain of operational inefficiency of health institutions, lack of management skills and the problem of corruption within the health system, that affect the effectiveness of the preventive healthcare system. Healthcare reforms continue and problems are being addressed within the framework of the National Health Care Strategy, 2012-2020 (MZRH, 2012). The priorities of the strategy are: computerization and e-Health; strengthening and better use of human resources in healthcare; strengthening management capacity in health institutions; restructuring and reorganization of health institutions; improving quality in healthcare; strengthening preventive activities; maintenance of financial stability; cooperation with other sectors and society as a whole.

Specific measures relating to the strengthening of preventive activities are focused on increased spending on preventive programs, encouraging preventive activities in all areas of healthcare, improving management of preventive activities, development of analytical capacity of the Croatian Institute for Public Health, and strengthening of the system of prevention, monitoring and control of health risks.

## 4.2. Analysis of the implementation of preventive public healthcare programs in Croatia

The first Croatian Health Project was launched in 1995 by the Croatia's Ministry of Health and the Croatian Institute for Health Insurance. The project was financed by the World Bank. One of the sub-projects was the health promotion program carried out by the Croatian Institute for Health Insurance. The main goal of the sub-project was to promote and adopt a healthier way of life of the citizens of Croatia. The scope of the project implementation plan was to provide an overview of impact of risk factors for the disease occurrence in order to effectively plan preventive activities (Hrabak Žerjavić, 2010). Communication with the public was through specific messages such as “Physical Activity for Health” via billboards, TV commercials, radio broadcast messages and various leaflets and brochures. A total of US\$ 775,700 was approved by the World Bank to support the media campaign and material preparation. However, after the project had been completed, it was found out that it was not executed in an effective way due to high costs and very poor outcomes. As the main causes of failure were cited inadequate implementation of the plan, poor involvement of politicians and authorities, insufficiently innovative approach and excessive focus on education instead of action (Donev, Pavleković, Zaletel Kragelj, editors, 2007).

The new national prevention program is aimed at prevention of cardiovascular diseases and early detection of breast cancer, colon cancer and cervical cancer. Cardiovascular disease is the leading cause of death and hospitalization in Croatia (Kralj, 2011). The national program for prevention of cardiovascular diseases is focused primarily on activities that promote healthy eating habits, physical activity and reducing the prevalence of smoking. Furthermore, the objective of the program of early detection of breast cancer is to reduce mortality from breast cancer, increase the percentage of detection of the disease in the initial stages, reduce medical costs and improve the quality of life of women suffering from cancer (Šupe Parun, 2011). According to the Cancer Registry of the Croatian Institute for Public Health, colon cancer is the second most common form of cancer<sup>3</sup> for both men and women in Croatia (HLPR), therefore Croatia has been implementing the national program of early detection of colon cancer. All men and women aged between 50 and 74 years receive a faecal occult blood test kit by post to their home address. The kit is completed at home and returned to the corresponding Institute for Public Health. If the result of screening is positive, then the individual will be offered a colonoscopy. In this way it is possible to detect colon cancer at an early stage, and in case of detection of polyps, it can even be prevented (Antoljak, n.d.). National screening program for early detection of cervical cancer is the latest program of the Ministry of Health and has been implemented since December 2012, although the same program has been implemented since 2006 in the Primorje-Gorski Kotar County, which was then the first and only county which had conducted screening (NZZJZPGŽ, n.d.). Response rates are very low compared to the EU, as shown in Table 1.

**Table 1** Response rates to national cancer prevention programs

Program	Average response rate (%)	
	Croatia	EU
Early detection of breast cancer (2006)	59	74,9 <sup>4</sup>
Early detection of colon cancer (2009)	20	70
Early detection of cervical cancer (2010)	42 <sup>5</sup>	80

*Source: Authors, according to Šupe Parun (2011); Glibotić Kresina, Janković, Vlah (2011); Antoljak (n.d.)*

Such response rate reveals serious problems and weaknesses in the implementation of prevention programs. The section below discusses these weaknesses and offers some recommendations.

<sup>3</sup> In the first place are lung cancer (men) and breast cancer (women) (HZJZ, Croatian National Cancer Registry).

<sup>4</sup> Response rate to NHS program in the UK (National Health Service, 2007)

<sup>5</sup> Response rate to the screening program conducted by the Primorje-Gorski Kotar County since then the program had not yet been agreed at the national level, and the results of the national program are not yet known.

### 4.3. Weaknesses and recommendations for an effective preventive healthcare system in Croatia

In Croatia a number of preventive healthcare measures are carried out, from mandatory vaccination at an early age through programs of prevention of various cancers. But the problem is the lack of departments in charge of controlling and evaluating the implementation of preventive measures. Therefore, it is impossible to distinguish the effective and efficient intervention of those ineffective which results in irrational use of existing resources and thus non-rationalized prevention in general, as defined by the Strategic Development Plan for Public Health, 2013-2015 (MZRH, 2013). Furthermore, there is a problem of an inadequate approach to citizens who are inadequately and insufficiently informed about the programs of preventive healthcare and their importance, resulting in low response of citizens. The cause of low response is also insufficient focus on the demand side of the system, or in other words, there is an insufficient knowledge of the habits and preferences of the population. It is indisputable that every prevention program requires a certain investment of funds, and each response that is lower than expected means irrational use of these funds.

As such, the priorities for increasing the effectiveness of preventive healthcare in Croatia are developing systems to plan, evaluate and monitor preventive activities in collaboration with experts from the area, rational management of funds intended for preventive healthcare, analysis of attitudes, opinions, habits and preferences of the population, and involvement of physicians in preventive programs, since they are the ones who are in direct contact with patients and can boost the response to testing and better explore other possible channels of influence on the preferences of the population. Finally, it is necessary to carry out proper education of the population to raise awareness of the benefits of preventive public health programs.

### 5. Conclusion

Preventive healthcare has great potential in reducing the cost of health and economic burden placed on health systems. Investing in prevention is necessary because it can reduce the risk of developing a disease, and the demand for expensive clinical treatment services, thereby decreasing high cost of public health. But not all the preventive measures are considered to be efficacious. Likewise, investment in healthcare does not necessarily mean improved health. It is necessary to develop an advanced system of planning, implementation, monitoring and evaluation of preventive actions in order to select among numerous methods of preventive healthcare. By choosing the right method it is possible to ensure a rational allocation of resources.

Prevention programs in Croatia are numerous, but there is a problem of their effective implementation, and the biggest problem is the poor response of the citizens. Weaknesses in the implementation of preventive healthcare programs in Croatia are many, from insufficient knowledge of attitudes, habits and preferences of the population, and irrational use of available resources, to an underdeveloped system of control and monitoring of preventive health programs. There is an obvious need for stronger involvement of physicians in prevention programs as well as identifying other possible channels of influence on consumer preferences, as well as an adequate education of the population as active participants and partners in the process of promoting preventive programs in public health.

### REFERENCES

Antoljak, N. (n.d.): *Sprječavanje i rano otkrivanje raka debelog crijeva*, Hrvatski zavod za javno zdravstvo, Služba za epidemiologiju, [http://www.hzjz.hr/epidemiologija/kron\\_mas/prev\\_krk.htm](http://www.hzjz.hr/epidemiologija/kron_mas/prev_krk.htm)

Benson, B., Storey E., Huntington, C., Eberle, M., Ferris, A. (2008): *The Economic Impact of Prevention*, University of Connecticut, Center for Public Health and Health Policy, Connecticut

Berkowitz, E. N., Kerin, R. A., Rudelius, W. (1989): *Marketing*, 2<sup>nd</sup> ed., Homewood: Richard D. Irwin

Boland, M., Murphy, J. (2012): *The Economic Argument for the Prevention of ill-health at Population Level*, For Working Group on Public Health Policy Framework, [http://iogt.org/wp-content/uploads/2015/03/Economics\\_of\\_Prevention.pdf](http://iogt.org/wp-content/uploads/2015/03/Economics_of_Prevention.pdf)

Busse, R., Blümel, M., Scheller-Kreinsen, D., Zentner, A. (2010): *Tackling Chronic Disease in Europe*, European Observatory on Health Systems and Policies, [http://www.euro.who.int/data/assets/pdf\\_file/0008/96632/E93736.pdf](http://www.euro.who.int/data/assets/pdf_file/0008/96632/E93736.pdf)

Chatterjee, H. (2008): *Staying essential – Articulating the value of object based learning*, Proceedings of the 7<sup>th</sup> Conference of the International Committee of ICOM for University Museums and Collections (UMAC), Vienna, August 19-24, 2007, pp. 37-42

Donabedian, A. (1980): *The Definition of Quality and Approaches to its Assessment*, vol. 1, Ann Arbor, MI: Health Administration Press

Donabedian, A. (1988): *The Quality of Care: How Can It be Assessed*, Journal of the American Medical Association, vol. 260, no. 12, pp. 1743-1748

Donev, D., Pavleković, G., Zaletel Kragelj, L., editors (2007): *Health Promotion and Disease Prevention: A Handbook for Teachers, Researchers, Health Professionals and Decision Makers*, Hans Jacobs Publishing Company

Ernst, M., Moolchan, E., Robinson, M. (2001): *Behavioural and neural consequences of prenatal exposure to nicotine*, Journal of the American Academy of Child Adolescent Psychiatry, vol. 40, no. 6., pp. 630–641

Feldstein, P.J. (2012): *Health Care Economics*, 7<sup>th</sup>ed., Delmar, Cengage Learning  
Foresight (2007): *Tackling obesities: Future choices-modelling future trends in obesity and their impact on health*, Foresight Programme of the Government Office for Science, <http://www.foresight.gov.uk/Obesity/14.pdf>

Glibotić Kresina, H., Janković, S., Vlah, N. (2011): *Prikaz programa “Rano otkrivanje raka vrata maternice kod žena Primorsko-goranske županije za 2009. i 2010. godinu”*, Hrvatski časopis za javno zdravstvo, vol. 7, no. 28

Hayden-Wade, H. A., Stein, R. I., Ghaderi, A., Saelens, B. E., Zabinski, M. F., Wilfrey, D. E. (2005): *Prevalence, characteristics, and correlates of teasing experiences among overweight children vs. non-overweight peers*, Obesity Research, vol. 13, no. 8, pp. 1381–1392

Hrabak-Žerjavić, V. (2010): *Prvi hrvatski projekt zdravstva, potprojekt: Promicanje zdravlja*, Hrvatski časopis za javno zdravstvo, vol. 6, no. 22

Hrvatska liga protiv raka - HLPR, *Rak debelog crijeva*, <http://hlpr.hr/rak/vijest/rak-debelog-crijeva>

Kralj, V. (2011): *Kardiovaskularne bolesti*, Hrvatski časopis za javno zdravstvo, vol. 7, no. 28

Latner, J. D., Stunkard, A. J. (2003): *Getting worse: The stigmatisation of obese children*, Obesity Research, vol. 11, no. 3, pp. 452–456

Ministarstvo zdravlja Republike Hrvatske - MZRH (2012), *Nacionalna strategija razvoja zdravstva*, <https://zdravlje.gov.hr/UserDocsImages/dokumenti/Programi,%20projekti%20i%20strategije/Nacionalna%20strategija%20zdravstva%20-%20za%20web.pdf>

Ministarstvo zdravlja Republike Hrvatske - MZRH (2013), *Strateški plan razvoja javnog zdravstva 2013-2015*, [https://zdravlje.gov.hr/UserDocsImages/dokumenti/Programi,%20projekti%20i%20strategije/Strateski\\_plan\\_razvoja\\_Javnog\\_zdravstva\\_2013\\_2015\\_final.pdf](https://zdravlje.gov.hr/UserDocsImages/dokumenti/Programi,%20projekti%20i%20strategije/Strateski_plan_razvoja_Javnog_zdravstva_2013_2015_final.pdf)

Nastavni zavod za javno zdravstvo Primorsko-goranske županije – NZZJZPGŽ (n.d.): *Program ranog otkrivanja raka vrata maternice u žena Primorsko-goranske županije*, <http://www.zzjzpgz.hr/index.php?show=cervix>

National Health Service (2007): *NHS Breast Screening Programme, Annual Review 2007*, <https://www.gov.uk/topic/population-screening-programmes/breast>

National Prevention Council (2011): *National Prevention Strategy*, <http://www.surgeongeneral.gov/priorities/prevention/strategy/report.pdf>

National Social Marketing Centre (2006): *Social marketing report 2006*, <http://www.thensmc.com/sites/default/files/ItsOurHealthJune2006.pdf>

OECD (2011): *Economics of Prevention*, [http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=DELSA/HEA/EP\(2011\)1&docLanguage=En](http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=DELSA/HEA/EP(2011)1&docLanguage=En)

Ostojić, R., Bilas, V., Franc, S. (2012): *Stanje i perspektive razvoja europskih zdravstvenih sustava*, Notitia d.o.o.

Phillips, C. J. (2005): *Health economics: an introduction for health professionals*, Blackwell Publishing

Public Health Agency of Canada (2009): *Investing in Prevention: the economic perspective*, [www.phac-aspc.gc.ca/ph-sp/preveco-index-eng.php](http://www.phac-aspc.gc.ca/ph-sp/preveco-index-eng.php)

Santerre, R. E., Neun, S. P. (2010): *Health Economics: Theory, Insights, and Industry Studies*, 5<sup>th</sup> ed., Cengage learning, pp. 624

Suhrcke, M., McKee, M., Stuckler, D., SautoArce, R., Tsoлова, S., Mortensen, J. (2006): *The contribution of health to the economy in the European Union*, Public Health, vol. 120, no. 11, pp. 994-1001

Suhrcke, M., Urban, D. M. (2006): *Are Cardiovascular Diseases bad for Economic Growth?*, CESIFO working paper no. 1845., [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=949412](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=949412)



Šupe Parun, A. (2011): *Nacionalni program ranog otkrivanja raka dojke*, Hrvatski časopis za javno zdravstvo, vol 7, no. 28

Waitzkin, H. (2003): *Report of the WHO Commission on Macroeconomics and Health: a summary and critique*, The Lancet, vol. 361, no. 9356, pp. 523-526

Warner, K. E. (1979): *The economic implications of preventive health care*, Social Science and Medicine, part C, vol. 13, no. 4, pp. 227-237

Zweifel, P., Breyer, F., Kifman, M. (2009): *Health Economics*, 2<sup>nd</sup> ed., Springer, pp. 529

**Ivana Dražić Lutilsky, PhD**

Faculty of Economics and Business, University of Zagreb

Trg J. F. Kennedyja 6, 10000 Zagreb, Croatia

Phone: +385 1 238 3408, Fax: +385 1 233 5633

E-mail address: idrazic@efzg.hr

**Berislav Žmuk, PhD**

Faculty of Economics and Business, University of Zagreb

Trg J. F. Kennedyja 6, 10000 Zagreb, Croatia

Phone: +385 1 238 3408, Fax: +385 1 233 5633

E-mail address: bzmuk@efzg.hr

**Verica Budimir, PhD**

Polytechnics in Požega

Vukovarska 17, Požega, Croatia

Phone: ++385994844400

E-mail address: vbudimir@vup.hr

## **FINANCIAL PERFORMANCE OF CROATIAN PUBLIC HOSPITALS<sup>1</sup>**

### **FINANCIJSKA USPJEŠNOST HRVATSKIH JAVNIH BOLNICA**

#### **ABSTRACT**

*With this paper, the authors are analysing financial performance of Croatian public hospitals through secondary research and financial data obtained from Croatian Health Insurance Fund. The purpose of this paper is to express financial performance of hospitals for 2014 and 2015, based on additional data collected by the Croatian Health Insurance Fund. With this analysis, we would like to highlight the financial ratios but also some other important ratios that will provide us with a clearer picture regarding financial performance of Croatian public hospitals due to the Rehabilitation Law of public institutions enforced from January 2013. Therefore, based on that change the authors will be able to conclude whether the hospitals were more effective in the years after the introduction of the Rehabilitation Law. Public hospital managers are responsible for ensuring the provision of high quality health care services to patients, with the lowest costs for taxpayers (Value for money). At the national level, it is important to make a suitable and optimal allocation of limited financial and physical resources taking care of continuous improvement of health care patients. Financial indicators provides managers and different stakeholders (e.g. the Ministry of Health and Croatian Health Insurance Fund) with hospital quality information necessary for the successful and balanced management of hospitals, and the efficient allocation of budgetary resources. From the conducted research, the authors have concluded that financial performance of Croatian public hospitals is improved in 2015.*

---

<sup>1</sup> This work has been supported by Croatian Science Foundation's funding of the project 8509 Accounting and financial reporting reform as a means for strengthening the development of efficient public sector financial management in Croatia. Any opinions, findings, and conclusions or recommendations expressed in this material are those of the authors and do not necessarily reflect the views of Croatian Science Foundation.

**Keywords:** *public hospitals, financial performance, financial indicators, ratios, Republic of Croatia, statistical analysis*

## SAŽETAK

*U ovom radu autori analiziraju financijsku uspješnost hrvatskih javnih bolnica kroz sekundarno istraživanje financijskih podataka dobivenih od Hrvatskog fonda za zdravstveno osiguranje. Svrha ovog rada je izraziti financijsku uspješnost javnih bolnica za 2014. i 2015. godinu, na temelju dodatnih podataka prikupljenih od strane Hrvatskog fonda za zdravstveno osiguranje. Uz ove analize, žele se istaknuti financijski pokazatelji, ali i neki drugi važni pokazatelji koji će pružiti jasniju sliku o financijskom poslovanju hrvatskih javnih bolnica zbog Zakona o rehabilitaciji javnih ustanova koji se primjenjuje od siječnja 2013. Javni upravitelji bolnica su odgovorni za osiguravanje pružanja kvalitetnih zdravstvenih usluga pacijentima, s najnižim troškovima za porezne obveznike (vrijednost za novac). Na nacionalnoj razini, važno je napraviti odgovarajuću i optimalnu raspodjelu ograničenih financijskih i fizičkih resursa te pokazati konstantnu brigu o kontinuiranom poboljšanju usluga u zdravstvu. Financijski pokazatelji pružaju menadžerima i različitim interesnim skupinama (na primjer, Ministarstvo zdravstva i Hrvatski zavod za zdravstveno osiguranje) informacije potrebne za uspješno i uravnoteženo upravljanje bolnicama i učinkovitu raspodjelu proračunskih sredstava. Iz provedenog istraživanja, autori su zaključili da je poboljšana financijska učinkovitost hrvatskih javnih bolnica u 2015.*

**Ključne riječi:** *javne bolnice, financijska uspješnost, financijski pokazatelji, Republika Hrvatska, statistička analiza*

### 1. Introduction

Financial performance of Croatian public hospitals is under observation for a longer period of years due to the piled debt. Patients, regulators, payers of health services and other stakeholders track the activities of healthcare institutions and require many information about them in order to make good decisions. Complexity in the management of Croatian public hospitals is determined with the growth for demand of health services, while in the same time revenues are limited, the costs are growing and performance-monitoring model is poorly developed. Changes in financing public hospitals, increase in waiting lists of patients and constant increase in public hospitals expenditures have forced the Government to issue a Rehabilitation Law from January 2013 (Official Gazette 136/12, 151/14). The rehabilitation process has started in public hospitals due to the impossibility to cover loss incurred and the fulfilment of financial obligations in defined deadlines from regular funding sources. Because of the financial crisis, Croatian Healthcare Insurance Fund is constantly changing achievable revenues via DRG and DTP methodology of financing public hospitals. However, costs remain constant or they even increase, which leads to non-profitability and piled debt of individual public hospitals that consume high fixed costs. Pursuant to the Rehabilitation Law of public institutions, (Official Gazette 136/12, 151/14), during 2013 Government has adopted a decision on the rehabilitation of 9 biggest public hospitals founded by the Republic of Croatia, and later the process of rehabilitation covers 14 health institutions owned by Regional and Local Government. So, in total 23 public hospitals. Today the number of public hospitals that entered in to the process of rehabilitation is 31 out of 57 public hospitals. Therefore, the purpose of this paper is to examine financial performance indicators of Croatian public hospitals based on the available data from Croatian Health Insurance Fund (hereinafter CHIF). The paper present financial indicators for public hospitals sector. The limitation of this research is in available data from CHIF.

## 2. Financial performance and financial indicators of public hospitals

Public spending on health care in Croatia is about 7% of GDP per year (WHO, 2015) which belongs to the group of countries with the highest health spending in Europe (Dye; 2013, 83). Private funds only cover 16% of health care costs (Barić, Smolić; 2011, 48). Given the level of public expenditure on health and the needs of users that are considerably larger than the limited budgetary possibilities, the need for responsible and efficient management of health care institutions is necessary. In Croatia, the hospitals are mainly financing from three sources: (1) Croatian Health Insurance Fund (CHIF), (2) the county or the City of Zagreb, and (3) their own income earned in the market and under special regulations (Jakir Bajo, 2014). The funds allocation is through diagnostic and therapeutic groups (DRGs and DTP) and through day care cost for inpatient treatment (CHIF, 2015). The amount of compensation based on the DRG and DTP is determined as the average cost actually incurred in treating patients with similar clinical characteristics. Described structure ensures equal conditions of financing for hospitals, but it can lead to the situation that the actual costs of treatment are not refunding.

These conditions encourage managers to seek cheaper ways of treatment to achieve the surplus funds or at least to avoid losses (Fahlevi, 2014). That creates the need for measuring and monitoring costs and profitability, also to follow up total expenditures per bed or per patient. Hospital management can evaluate its performance only if they have developed a performance measurement model.

Performance measurement seems like a new concept in healthcare system but the first follow-up results of treatment appeared 250 years ago in the United States (McIntyre *et al.* 2001). However, in the 80s of the 20<sup>th</sup> century, cost control and quality of healthcare system came into the focus, healthcare performance measurement has significantly developed and experienced its full implementation. In the hospital system today, performance measurement is a very important management tool. It helps in the processes of quality assurance and responsibilities and for effective and strategic managing of activities. There are different systems and models of hospital's performance measurement in the world. They are applicable at the national health care sector (Kelley and Hurst, 2006; Cercone and O'Brien, 2010; CHIF, 2013; NHPA, 2014; CHIF, 2014) and institutional (Northcott and Llewellyn, 2004; Caballer-Tarazona *et al.* 2010) level. Performance information that these models presenting involves the performance indicators classified by different dimensions. The dimensions of measurement vary through the models, and include effectiveness, safety, responsibility, fairness, efficiency, quality, finance, results, costs, etc. All of these dimensions, as well as indicators on which they are based, with regard to the information needs of management, can be classified into two main groups: financial and non-financial.

Financial analysis as instrument of performance measurement, at the profit sector is extensively used since the beginning of the financial markets. In doing so, they use different analytical tools and procedures, such as comparative and structural financial statements, financial ratios, absolute and relative performance measures, system performance indicators and specialized analyzes such as cost – volume – profit analysis, or analysis of changes in financial position. Budgetary users, which include hospitals, have different, often conflicting goals and objectives, and it is therefore difficult to measure and evaluate their performance. Financial indicator, according to Sedevich – Fons (2014, p. 317) is something that shows how good a institution's financial situation is.

## 3. Financial indicators and statistical analysis of Croatian public hospital

In this part of the paper, the authors are analysing financial performance of Croatian public hospitals and it is a sector analysis. Types of the hospitals in Croatia are Clinical Hospital Centre (CHC), Clinical Hospital (CH) and Clinics (C) as a first category, then General Hospitals as the second and Specialized Hospitals as the third category.

In Table 1 is visible population characteristics like number of contracted beds with CHIF in 2015. Contracted beds are a basis for health care service provisions. The highest number of contracted beds

is in CHC, CH and C, like the number of employees. There are 26 of Specialized hospitals, 21 of General hospitals and only 10 of CHC, CH and C.

**Table 1** Characteristics of population

Type of hospital	Number of hospitals	Structure of hospitals (%)	Number of contracted beds with CHIF in 2015	Structure of beds (%)	Number of employees at 2014.	Structure of number of employees (%)
CHC, CH, C	10	18	7,695	38	22,367	49
General hospitals	21	37	6,504	32	17,308	38
Specialized hospitals	26	46	5,865	29	6,364	14
Total	57	100	20,064	100	46,039	100

Source: CHIF, internal documents.

From the characteristic of population, we can conclude that by the number of contracted beds and by the number of employees CHC, CH and C are the largest hospitals. Medium hospitals are General hospitals and Specialized hospitals are small type of hospitals. When we look at the structure of hospitals we can see that Specialized hospitals are 46% of total number of hospitals, General hospitals are 37% and the CHC, CH and C are 18% of total number of hospitals.

**Table 2** Structure and indices of number of employees according to the type of the hospitals

Type of hospital	Structure of number of employees 2013	Structure of number of employees 2014	Index 2014/2013
CHC, CH, C	49	49	99
General hospitals	37	38	101
Specialized hospitals	14	14	97
Total	100	100	100

Source: authors

According to the Table 2 almost half of the total number of employees in public hospitals is working in CHC, CH and C type of the hospital. The smallest number is working in Specialize hospitals. The number of employees for 2015 is not available. The structure of employees under the type of the hospitals and the total number of employees is not significantly changed in 2014 in relation to 2013. According to the indices, it is expected that in 2015 there were not any significant change in number of employees, also.

**Table 3** Structure and indices of revenues from CHIF and expenditures for 2015

Type of hospital	Revenues from CHIF 2015 (in millions HRK)	Structure of revenues from CHIF 2015 (%)	Total expenditures 2015 (in millions HRK)	Structure of expenditures (%)	Difference between revenues and expenditures (in millions HRK)	Ratio of revenues and expenditures
CHC, CH, C	5,146	56	6,390	55	-1,244	0.81
General hospitals	3,114	34	4,036	35	-922	0.77
Specialized hospitals	883	10	1,136	10	-252	0.78
Total	9,143	100	11,561	100	-2,418	0.79

Source: authors

Table 3 is showing that total revenues in 2015 from CHIF are not covering all expenditures occurred in Croatian public hospitals. The highest difference between revenues and expenditures is in CHC, CH and C types of hospitals. Since those are the largest hospitals with the highest number of contracted beds with CHIF and number of employees, it is logical to have the highest expenditures. However, the problem is that earned revenues for provided health services are not covering expenditures. That is the issue for all types of the hospitals.

**Table 4** The structure of total and due liabilities

Type of hospital	Total liabilities 31.12.2015., in millions HRK	Structure of total liabilities (%)	Total due liabilities 31.12.2015., in millions HRK	Structure of due liabilities (%)	Ratio of due and total liabilities
CHC, CH, C	2,626	64	1,301	65	0.50
General hospitals	1,355	33	674	34	0.50
Specialized hospitals	142	3	16	1	0.11
Total	4,124	100	1,991	100	0.48

Source: authors

From the structure of total and due liabilities on 31th December 2015 it is observed that Croatian public hospitals have liabilities that have not been paid at the 31th December even they are due to paying. The ratio of due and total liabilities for CHC, CH and C and for General hospitals is 50%. The smallest due and total liabilities ratio value is in Specialized hospitals. Therefore, from Table 4 it is concluded that Specialized hospitals are not generators of piled debt like the other two type of hospitals.

**Table 5** The structure of number of cases/patients and revenues

Type of hospital	Total number of cases/patients in 2015	Structure of total cases/patients (%)	Total revenues in 2015, (in millions of HRK)	Structure of total revenues (%)	Average revenue in HRK per case/patient
CHC, CH, C	6,498,165	47	5,146	56	791
General hospitals	6,493,089	47	3,114	34	479
Specialized hospitals	791,610	6	883	10	1,111
Total	13,782,864	100	9,143	100	705

Source: authors

In Table 5 total number of cases/patients is provided. Since the total number of the cases/patients is higher almost 3 times then the total number of Croatian citizens it is concluded that some patients consume more health services. Average revenue per case/patient is the highest in Specialized hospitals and the lowest in General hospital.

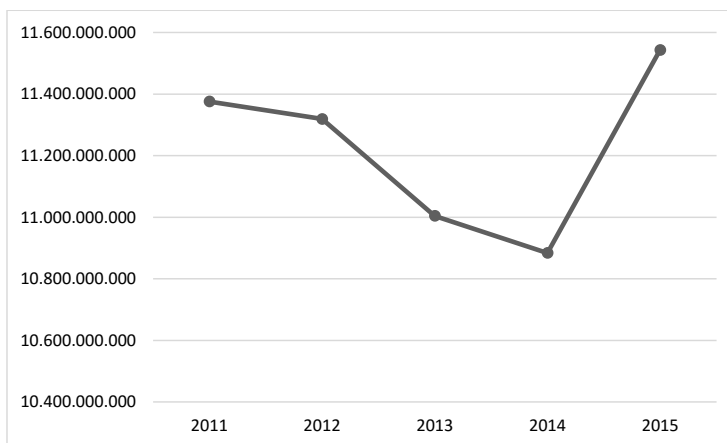
**Table 6** Structure of revenues

Type of hospital	Structure of revenues from CHIF, 2013	Structure of revenues from CHIF, 2014	Structure of revenues from CHIF, 2015	Index 2014/2013	Index 2015/2014	Index 2015/2013
CHC, CH, C	59	55	56	84	113	95
General hospitals	32	36	34	102	104	106
Specialized hospitals	10	9	10	89	112	100
Total	100	100	100	90	110	99

Source: authors

Structure of revenues from CHIF by the types of hospitals is relatively stable in period from 2013 to 2015. By the values of index it is noticed that revenues from CHIF in 2014 decreased for 10% in comparison to 2013. However, the total revenues from CHIF increased for 10% in 2015 in comparison to 2014, which leads to the conclusion that total revenues from CHIF in 2015 are almost at the same level like in 2013.

**Figure 1** Total expenditures of Croatian public hospitals



Source: authors

The trend of total expenditures for Croatian public hospitals is visible in Figure 1. There is a decline trend from 2011 until 2014 while in 2015 total expenditures are raising again. In Table 7 structure and indices of expenditures categories is given.

**Table 7** Structure and indices of expenditure categories by the type of the hospitals

Type of hospitals	Medicaments expenditures			Employees expenditures			Capital investments			Total		
	Structure 2014	Structure 2015	Index 2015/2014	Structure 2014	Structure 2015	Index 2015/2014	Structure 2014	Structure 2015	Index 2015/2014	Structure 2014	Structure 2015	Index 2015/2014
CHC, CH, C	74	75	109	50	51	105	43	34	92	55	55	107
General hospitals	23	22	103	38	38	103	43	47	128	35	35	106
Specialized hospitals	3	3	98	11	11	100	14	18	151	10	10	101
Total	100	100	107	100	100	104	100	100	116	100	100	106

Source: authors

The structure of medicaments and employees expenditures are almost the same in 2014 and 2015. The medicaments expenditures are for 7% higher in 2015 than in 2014. The employee's expenditures are for 4% higher in 2015 than in 2014. In the expenditures for capital investments is visible that the capital investments in CHC, CH and C types of the hospitals were decreased by 8% in 2015 in compare to the previous year. On the other hand, General hospitals increased capital investments in 2015 by 28% and Specialized hospitals increased capital investments by 51% in 2015 in compare to 2014. The total increase in capital investments in 2015 in relation to 2014 is 16%. The total expenditures are for 6% higher in 2015 than in 2014.

### 3.1. Descriptive statistical analysis of chosen indicators

Based on theory and literature review the authors selected different ratios (Gurd, Gao, 2007; Magee, Davis, Coulter, 2003; Curtis, Roupas, 2009; Sedevich-Fons, 2014; Suarez, Lesneski, Denison, 2011). In descriptive statistical analysis in total 13 different indicators are used. The name of the ratio, numerator and denominator are visible in Table 8.

*Table 8 Analysed indicators*

Ratio	Numerator	Denominator
1.Revenue per bed 2013	Revenues from CHIF, 2013	Number of contracted beds, 2013
2.Revenue per bed 2014	Revenues from CHIF, 2014	Number of contracted beds, 2014
3.Revenue per bed 2015	Revenues from CHIF, 2015	Number of contracted beds, 2015
4.Revenue per employee 2014	Revenues from CHIF, 2014	Number of employees, 2014
5.Revenues per employee 2015	Revenues from CHIF, 2015	Number of employees, 2014
6.Medicaments ratio 2014	Medicaments expenditures, 2014	Total expenditures, 2014
7.Medicaments ratio 2015	Medicaments expenditures, 2015	Total expenditures, 2015
8.Salaries per number of employee 2014	Employee expenditures, 2014	Number of employees, 2014
9.Salaries per number of employee 2015	Employee expenditures, 2015	Number of employees, 2014
10.Employees expenditure ratios 2014	Employee expenditures, 2014	Total expenditures, 2014
11.Employees expenditure ratios 2015	Employee expenditures, 2015	Total expenditures, 2015
12.Capital investments ratio 2014	Capital investment expenditures, 2014	Total expenditures, 2014
13.Capital investments ratio 2015	Capital investment expenditures, 2015	Total expenditures, 2015

*Source: authors*

Within this statistical analysis, the authors observed not only financial data but also some natural data obtained from CHIF. In order to get an actual opinion about Croatian public health sector financial performance it would demand a benchmarking with similar health sector of some similar country. It would also demand a comparison through years to assess whether goals have been achieved.

*Table 9 Descriptive statistical analysis of revenue per bed indicator*

Public hospitals	Statistics	Revenue per bed 2013	Revenue per bed 2014	Revenue per bed 2015
CHC, CH and C	N	10	10	10
	Average	714,645	631,573	687,179
	St. dev.	138,155	96,290	106,320
	Coeff. of var.	19	15	15
	Min	595,122	500,758	547,085
	Max	984,857	816,250	923,518
General hospitals	N	21	21	21
	Average	481,291	468,674	498,746
	St. dev.	118,788	98,725	114,178
	Coeff. of var.	25	21	23
	Min	222,466	177,898	211,982
	Max	740,145	696,179	747,325
Specialized hospitals	N	26	26	26
	Average	218,926	182,540	194,091
	St. dev.	137,219	93,286	109,518
	Coeff. of var.	63	51	56
	Min	74,966	71,371	73,440
	Max	643,939	387,008	523,361
Total	N	57	57	57
	Average	402,555	366,736	392,839
	St. dev.	227,790	201,981	222,725
	Coeff. of var.	57	55	57
	Min	74,966	71,371	73,440
	Max	984,857	816,250	923,518

*Source: authors*



In analysis, all 57 public hospitals are observed. The structure of hospitals is visible in Table 1. The average value of revenues per contracted beds for all hospitals in 2013 is 402,555 HRK and it is decreasing in 2014 and in 2015 is increasing again. Since, the number of beds is on the same level for all 3 years we can conclude that the revenues are decreasing. The average deviation from average value in 2013 is 227,790 HRK or 57%. That indicates high variability of this indicator between the hospitals. That high variability is confirmed with the smallest and biggest value of this indicator. The smallest value of revenue from CHIF per contracted bed for 2013 is 74,966 HRK while the biggest value is 984,857 HRK. If we compare the values of revenues from CHIF per bed by the type of the hospitals those differences are smaller but not negligible. The highest coefficient of variation is calculated at Specialized hospitals. So, the high observed data variation level is confirmed not only with the difference between the smallest and highest value of revenues from CHIF per bed, but also with the high level of coefficient of variance.

**Table 10** Descriptive statistical analysis of revenue per employee indicator

Public hospitals	Statistics	Revenue per employee 2014	Revenue per employee 2015
CHC, CH and C	N	10	10
	Average	210,861	229,500
	St. dev.	19,485	22,229
	Coeff. of var.	9	10
	Min	180,722	190,118
	Max	251,139	268,749
General hospitals	N	21	21
	Average	167,832	177,511
	St. dev.	23,281	18,990
	Coeff. of var.	14	11
	Min	122,636	146,132
	Max	210,609	221,013
Specialized hospitals	N	26	26
	Average	129,296	139,281
	St. dev.	38,873	47,228
	Coeff. of var.	30	34
	Min	38,247	33,730
	Max	191,766	245,419
Total	N	57	57
	Average	157,803	169,194
	St. dev.	43,095	48,048
	Coeff. of var.	27	28
	Min	38,247	33,730
	Max	251,139	268,749

Source: authors

In Table 10 we can see that the revenues from CHIF per employee are rising in 2015 in relation to 2014. The average value of revenues per employee for all hospitals in 2014 is 157,803 HRK and in 2015 is 169,194 HRK. The average deviation from the average value of revenues per employee in 2014 is 43,095 HRK or 27%. In 2015 from the average value of revenues per employee is 48,048 HRK or 28%. That indicates not so high variability of this indicator values between the hospitals. The lowest data variability level is present in CHC, CH and C types of the hospitals.

**Table 11** Descriptive statistical analysis of medicaments ratio indicator

Public hospitals	Statistics	Medicaments ratio 2014	Medicaments ratio 2015
CHC, CH and C	N	10	10
	Average	0.1725	0.1746
	St. dev.	0.0764	0.0739
	Coeff. of var.	44	42
	Min	0.0461	0.0358
	Max	0.3458	0.3302

Public hospitals	Statistics	Medicaments ratio 2014	Medicaments ratio 2015
General hospitals	N	21	21
	Average	0.0837	0.0807
	St. dev.	0.0336	0.0327
	Coeff. of var.	40	41
	Min	0.0397	0.0369
Specialized hospitals	N	26	26
	Average	0.0329	0.0317
	St. dev.	0.0369	0.0361
	Coeff. of var.	112	114
	Min	0.0005	0.0009
Total	N	57	57
	Average	0.0761	0.0748
	St. dev.	0.0676	0.0675
	Coeff. of var.	89	90
	Min	0.0005	0.0009
	Max	0.3458	0.3302

Source: authors

In Table 11, we can see medicaments ratios for 2014 and 2015 given as a share of medicaments expenditures in total expenditures. The average percentage of medicaments for all hospitals in 2014 is 7.61% and in 2015 is 7.48%. The average deviation from average share of medicaments expenditures in total expenditures value in 2014 is 89% and in 2015 it is 90%. The highest data variability level is present at Specialized hospitals whereas the data variability level at CHC, CH and C types of the hospitals and at General hospitals is almost the same.

**Table 12** Descriptive statistical analysis of salaries per number of employee indicator

Public hospitals	Statistics	Salaries per number of employee 2014	Salaries per number of employee 2015
CHC, CH and C	N	10	10
	Average	138,183	145,989
	St. dev.	7,657	8,483
	Coeff. of var.	6	6
	Min	123,097	130,243
General hospitals	N	21	21
	Average	137,536	141,248
	St. dev.	4,824	5,407
	Coeff. of var.	4	4
	Min	128,541	130,403
Specialized hospitals	N	26	26
	Average	112,080	112,717
	St. dev.	15,538	17,465
	Coeff. of var.	14	15
	Min	70,720	74,259
Total	N	57	57
	Average	126,038	129,066
	St. dev.	17,101	19,733
	Coeff. of var.	14	15
	Min	70,720	74,259
	Max	153,129	163,785

Source: authors

Salaries per employee are given in Table 12. The average value of salaries per number of employee for all hospitals in 2014 is 126.038 HRK and in 2015 is 129.066 HRK. The average deviation from average salary per employee in 2014 is 17.101 HRK or 14% and in 2015 the average deviation is 19.733 HRK or 15%. That indicates relatively low variability of this indicator between the hospitals in the both observed years.

**Table 13** Descriptive statistical analysis of employee expenditure ratio and capital investments ratio indicator

Public hospitals	Statistics	Employees expenditure ratios 2014	Employees expenditure ratios 2015	Capital investments ratio 2014	Capital investments ratio 2015
CHC, CH and C	N	10	10	10	10
	Average	0.5359	0.5253	0.0275	0.0225
	St. dev.	0.0630	0.0587	0.0162	0.0140
	Coeff. of var.	12	11	59	62
	Min	0.4110	0.4151	0.0059	0.0000
General hospitals	Max	0.6138	0.5948	0.0608	0.0463
	N	21	21	21	21
	Average	0.6293	0.6133	0.0419	0.0531
	St. dev.	0.0465	0.0554	0.0246	0.0493
	Coeff. of var.	7	9	59	93
Specialized hospitals	Min	0.5646	0.5009	0.0139	0.0000
	Max	0.7300	0.7216	0.1223	0.1838
	N	26	26	26	26
	Average	0.6250	0.6094	0.0518	0.0743
	St. dev.	0.0996	0.1135	0.0412	0.1057
Specialized hospitals	Coeff. of var.	16	19	80	142
	Min	0.3600	0.3494	0.0000	0.0000
	Max	0.8388	0.8172	0.1343	0.4688
	N	57	57	57	57
	Average	0.6110	0.5961	0.0439	0.0574
Total	St. dev.	0.0849	0.0931	0.0335	0.0799
	Coeff. of var.	14	16	76	139
	Min	0.3600	0.3494	0.0000	0.0000
	Max	0.8388	0.8172	0.1343	0.4688

Source: authors.

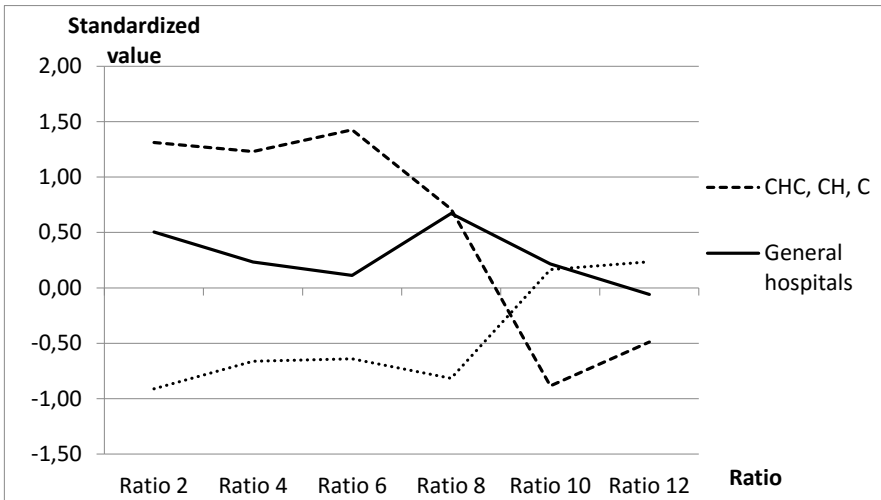
For hospitals, it can be said that they are labour and capital intensive sector. Therefore, it is important the strength in employees and in capital investment in public hospitals. In Table 13 are shown indicators that are showing the shares of salaries expenditures and capital investments expenditures in total expenditures for 2014 and 2015. The average share of salaries in total expenditures for all hospitals in 2014 is 61.10% and in 2015 the share is 59.61%. Low values of coefficients of variation reveal low variability level of this ratio in the both observed years. The lowest share of salaries expenditures in total expenditures is 36% in a hospital in 2014 whereas the highest share is 83.88% in a hospital. The similar situation is in 2015, also.

When we look at the capital investment expenditures as a share in total expenditures, the situation is very poor. The average percentage of capital investment in total expenditures for all hospitals is 4.39% in 2014 and 5.74% in 2015. However, high values of coefficients of variation, 76% in 2014 and 139% in 2015, are showing that there a huge differences in capital investments levels between different hospitals. For example, there was a hospital which had no capital investments in 2015 whereas there was hospital which capital investments were 46.88% of total expenditures. If we observe capital investments by the type of the hospitals, it can be concluded that the lowest capital

investments are done in CHC, CH and C type of the hospitals while the largest capital investments are done in Specialized hospitals.

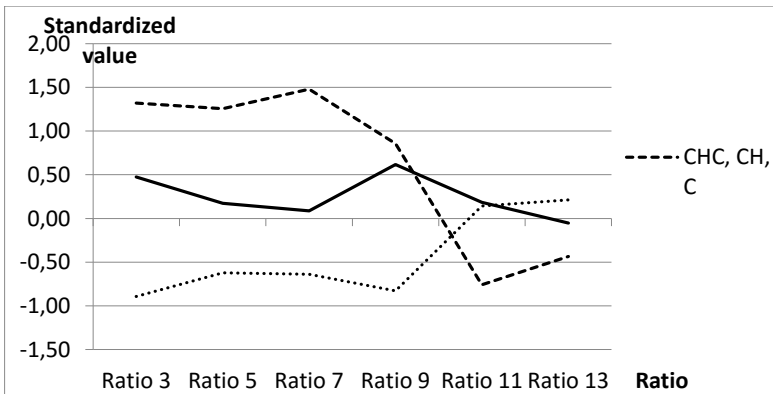
In order to eliminate effect of different measures and to enable comparison of the hospital types, in the further analysis standardized values of the ratio were used. The values were standardized by using z-score approach. In the first step, values were standardized for each ratio separately by taking into account all 57 public hospitals. In the next step, for each observed ratio the average z-score for each hospital type was calculated. Using these averages, profile diagrams are constructed separately for 2014 and 2015. Profile diagrams are given in Figure 2 and Figure 3.

**Figure 2** Profile diagram of the observed public hospitals categories, average standardized values, ratios related to 2014



Source: authors.

**Figure 3** Profile diagram of the observed public hospitals categories, average standardized values, ratios related to 2015



Source: authors

The profile diagrams, which are given on Figure 2 and Figure 3, are showing that CHC, CH and C hospitals are having, in average, the highest value of the first four ratios, but the lowest values of the last two ratios in both observed years. According to that, it can be concluded that for CHC, CH and C hospitals are characteristic the highest revenues per bed, the highest revenues per employee, the highest share of medicaments expenditures in total expenditures and the highest employee expenditures per number of employees. On the other hand, CHC, CH and C hospitals, in average, are having the lowest share of employee expenditures in total expenditures and the lowest share of capital investment expenditures in total expenditures. According to the profile diagrams, Specialized hospitals are having totally opposite characteristics in compare to the CHC, CH and C hospitals. Between these two types of hospitals, their place have found General hospitals.

#### 4. Conclusion

In this paper, the authors analysed financial performance of 57 Croatian public hospitals. Based on the selected indicators for health sector analysis from literature review and available data from CHIF, the authors presented structure of liabilities, revenues and expenditures for Croatian public hospitals. Based on the aforementioned, it can be concluded that there is a huge portion of unpaid liabilities due by the 31th December 2015 and it is confirming piled debt in public hospitals. The smallest portion of due liabilities is in Specialized hospitals. The structure of revenues is relatively stable but it is falling in 2014 and raising again in 2015. Revenues in 2015 are on the same level as in 2013. Total expenditures are falling from 2011 until 2014 and then raising again in 2015. From all of that it can be concluded that 2014 was expressing some savings regarding expenditures in hospitals and revenues coming from CHIF and public resources. From observed indicators for period 2014 and 2015 following conclusion are made. The average value of revenues per contracted beds for all hospitals in 2013 is 402,555 HRK and it is decreasing in 2014 and in 2015 is increasing again. Revenues from CHIF per employee are rising in 2015 in relation to 2014. The average value of revenues per employee for all hospitals in 2014 is 157,803 HRK and in 2015 is 169,194 HRK. The average value of salaries per number of employee for all hospitals in 2014 is 126.038 HRK and in 2015 is 129.066 HRK and there is a large difference in salaries as a minimum and maximum value of salaries per employees in all hospitals. The average percentage of medicaments expenditures in total expenditures for all hospitals in 2014 is 7.61% and in 2015 is 7.48%. The average share of salaries in total expenditures for all hospitals in 2014 is 61.10% and in 2015 the share is 59.61%. The average percentage of capital investment in total expenditures for all hospitals is 4.39% in 2014 and 5.74% in 2015. Observing the ratio of medicaments, salaries and capital investment expenditures in total expenditures in 2015 it is concluded that medicaments ratio is decreasing, salaries expenditures ratio is decreasing even though the total expenditures are increasing and the capital investments ratio is increasing. That all is showing positive trend for Croatian public hospitals. From the conducted research, the authors have concluded that financial performance of Croatian public hospitals is improved in 2015 in relation to 2014.

#### REFERENCES

- Barić, V., Smolić, Š. (2011): *Stabilnost zdravstvenog sustava u recesiji*, Zbornik radova s 90 godina Ekonomskog fakulteta u Zagrebu, Obadić, A., Šimurina, J. & Tica, J. (ur.), pp. 47-58., ISBN: 978-953-6025-41-1, Zagreb, 23 November, 2010, Biblioteka Ekonomika i razvoj, Zagreb.
- Caballer-Tarazona, M. et al. (2010): *A model to measure the efficiency of hospital performance, Mathematical and Computer Modelling*, Elsevier, 52(2010), pp. 1095-1102., <http://www.sciencedirect.com/science/article/pii/S089571771000124X>, (accessed 22 02 2016)

Cercone, J. & O'Brien, L. (2010): *Benchmarking Hospital Performance in Health*, Sanigest international.

Croatian Institute for Health Insurance (CIHI), Hrvatski zavod za zdravstveno osiguranje (2014): *Pokazatelji rada bolnica*, <http://www.hzzo.hr/hzzo-predstavio-pokazatelje-kvalitete-i-ucinkovitosti-za-bolnicke-zdravstvene-ustanove>, (accessed 21 02 2016)

Curtis, P., Roupas, A. (2009): *Health Care Finance, the Performance of Public Hospitals and Financial Statement Analysis*, European Research Studies, Vol. XII, Issue 4, pp. 199 – 212.

Dye, C. at al. (2013): *Research for Universal Health Coverage*, WHO, ISBN 978-92-4-069083-7, Luxembourg.

Fahlevi, H., (2014): *The Innovation of the Role of Accounting in Public Hospitals - Lessons Learned from Hospital Financing Reforms in Indonesia and Germany*, Ph. D. der Deutschen Universität für Verwaltungs Wissenschaften Speyer.

Gurd, B., Gao, T. (2008): *Lives in the balance: an analysis of the balanced scorecard (BSC) in healthcare organizations*, International Journal of Productivity, Vol.57 No.1, pp.6-21.

Hrvatski zavod za zdravstveno osiguranje (HZZO) [Croatian Health Insurance Fund (CHFI)], (2015): *Financiranje zdravstvene zaštite [The financing of health care]*. [online] <http://www.hzzo.hr/zdravstveni-sustav-rh/financiranje-zdravstvene-zastite/> (Accessed 26 August 2015)

Jakir Bajo, I., (2014): *Promjene u načinu planiranja i izvršavanja financijskih planova ustanova u zdravstvu* [Changes in planning and execution of financial plans in health care institutions]. *TIM4PIN*, 2(12), pp. 105-109.

Kelley, E., Hurst, J. (2006): *Health care quality indicators project*, Conceptual framework paper, OECD.

Magee, H., Davis, L.J., Coulter, A. (2003): *Public views on healthcare performance indicators and patient choice*, Journal of the Royal Society of Medicine, Vol.96, pp.338 – 342.

McIntyre, D., Rogers, L., and Heier, E. J., (2001): *Overview, history, and objectives of performance measurement*, Health Care Financing Review, 22(3), pp. 7–21.

National Health Performance Authority (2014). *Performance Indicator Reporting*, NHPA, <http://www.nhpa.gov.au/internet/nhpa/publishing.nsf/Content/Performance-Indicator-Reporting>, (Accessed 21 02 2016)

Northcott, D. & Llewellyn, S. (2004): *The balancing act in hospital performance measurement: A comparison of UK and New Zealand approaches*. Research executive summaries series, 5(2), ISSN 1744 - 7038 (online), CIMA.

Rehabilitation Law, Official Gazette 136/12, 151/14.

Sedevich – Fons, L. (2014): *Financial indicators in healthcare quality management systems*, The TQM Journal, Vol.26 Iss 4 pp.312-328.

Suarez, V., Lesneski, C., Denison, D. (2011): *Making the case for Using Financial Indicators in Local Public Health Agencies*, Vol.201, No.3, pp.419 – 425.

World Health Organization (2015). Croatia: Statistics. Available at: <http://www.who.int/countries/hrv/en/>, (Accessed 06 02 2016)

**Mirjana Grčić Fabić, Ph.D.**

Faculty of Economics

I. Filipovića 4, Rijeka

Phone: 051 355 137 Fax: 051 212 268

E- mail address: mirjana.grcic.fabic@efri.hr

**Goran Kutnjak, Ph.D. Associate Professor**

Faculty of Economics

I. Filipovića 4, Rijeka

Phone: 051 355 103 Fax: 051 212 268

E- mail address: goran.kutnjak@efri.hr

**Helga Pavlič Skender, Ph.D. Assistant Professor**

Faculty of Economics

I. Filipovića 4, Rijeka

Phone: 051 355 137 Fax: 051 212 268

E- mail address: hpavlic@efri.hr

**VALORIZATION OF MANAGEMENT INNOVATIONS IN CROATIAN  
LOCAL GOVERNMENT**

**VALORIZIRANJE MENADŽERSKIH INOVACIJA U HRVATSKOJ  
LOKALNOJ SAMOUPRAVI**

**ABSTRACT**

*Non-technological innovation as a research area are under-represented in relation to technological innovation. The dominant technological aspect of innovation has been facing some criticism because it does not fully consider innovation in services and ignores many important non-technological elements of innovative organizational activities. Non-technological innovation are related to organizational restructuring, human resources and ways of management. Moreover, they are often found to be causally related to technological innovations. The concept of management innovation, as a distinct type of non-technological innovation is still in its infant phase in research formulation and confirmation, and that especially refers to the context of research in the public sector. Generally, management innovations as a special type of non-technological innovations represent creating and implementation of new management practices, processes, structures or techniques. The purpose and objectives of this paper are to define the initial concepts in the study of management innovations in the public sector taking into account the specificities of public organizations and existing studies that have dealt with this special kind of innovation in the public sector. In the wake of the previous research, typology of management innovations was proposed, which was empirically tested in the context of local government, whose role was recently further emphasized by actual public administration reforms aimed at increasing the efficiency and effectiveness of public services, and often through implementation of new methods and management concepts. Research results based on the conducted factor analysis shows that the variables structural and procedural management innovations are evaluated as reliable and appropriate measuring instrument of management innovations. These results imply that it is meaningful to further carry out research in the field of management innovations along*

*the lines of the resulting typology, and which may result in valuable findings, considering that it is useful to observe management innovations as a factor and a precondition for easier and more successful implementation of changes, which are inevitable in Croatian local government and what can result in greater rationalization, efficiency and ultimately higher quality of services.*

**Keywords:** *Typology of innovations, Management innovation, Public sector, Local government*

## SAŽETAK

*Netehnološke inovacije kao područje istraživanja nedovoljno su zastupljene u odnosu na tehnološke inovacije. Dominantan tehnološki aspekt inovacija nailazi na mnoge kritike jer ne obuhvaća u potpunosti inovacije u uslužnim djelatnostima te ignorira mnoge važne netehnološke elemente inovativnih organizacijskih aktivnosti u organizacijama. Netehnološke inovacije vezane su za organizacijsko restrukturiranje, ljudske resurse i načine upravljanja te se sa tehnološkim inovacijama često nalaze u uzročno posljedičnim vezama. Koncept menadžerskih inovacija kao distinktivan tip netehnoloških inovacija još se nalazi u začetima konceptijskog oblikovanja i potvrđivanja, a posebice se to odnosi na kontekst istraživanja u javnom sektoru. Općenito, menadžerske inovacije kao poseban tip netehnoloških inovacija predstavljaju stvaranje i implementaciju novih menadžerskih praksi, procesa, struktura ili tehnika. Svrha i ciljevi ovog rada su definirati polazne osnove u istraživanju menadžerskih inovacija u javnom sektoru, uzimajući u obzir posebnosti javnih organizacija i postojeća istraživanja koja su se bavila ovom posebnom vrstom inovacija u javnom sektoru. Na tragu dosadašnjih istraživanja predložena je tipologija menadžerskih inovacija, koja je empirijski testirana u okviru konteksta lokalne samouprave, čija je uloga u posljednje vrijeme dodatno naglašena aktualnim reformama javne uprave koje imaju za cilj povećanje efikasnosti te učinkovitosti javnih usluga, i to često putem implementacije novih metoda i koncepata upravljanja. Rezultati istraživanja na osnovi provedene faktorske analize pokazuju da su varijable strukturalne i proceduralne menadžerske inovacije ocijenjene kao pouzdane i primjereni mjerni instrument menadžerskih inovacija. Takvi rezultati istraživanja impliciraju da je svrhovito daljnje istraživanje u području menadžerskih inovacija na tragu dobivene tipologije, a što može rezultirati vrijednim spoznajama, s obzirom da je menadžerske inovacije korisno promatrati kao čimbenik i preduvjet za lakše i uspješnije provođenje promjena, koje su neminovne u lokalnoj samoupravi Hrvatske, a što može rezultirati većom racionalizacijom, efikasnošću i konačno većom kvalitetom usluga.*

**Gljučne riječi:** *tipologija inovacija, menadžerske inovacije, javni sektor, lokalna samouprava*

## 1. Introduction

In scientific literature, innovation is treated as a significant contributing factor in the success of entities which implement it. The majority of empirical studies on innovation are usually related to technological developments, while little attention has been given to other forms of non-technological innovation. However, scientific literature shows that the research of innovation is a complex process and that it should not be solely founded on its technological dimension. The dominant technological aspect of innovation has been facing some criticism as it ignores many important non-technological elements of innovative organizational activities. In this paper, theoretical basis in the study of management innovation as a distinctive type of non-technological innovation are defined, with special emphasis on the context of implementation of these innovations in the public sector.



### 1.1. Technological vs. non-technological innovation

Several decades ago, the most common diversification of innovation was according to the technical/technological and administrative typology (Daft, 1978). It distinguishes certain types of innovation according to the general distinction between technology and social structure. Technological innovations relate to changes in the sphere of technology and reflect technical and technological progress. Non-technological or, as until recently termed, administrative innovations, are only indirectly related to the organizational core activity and mostly affect the organization's managerial system. An example of such innovations is management innovation. These types of innovations are related to organizational restructuring, human resources and ways of management. Moreover, they are often found to be causally related to technological innovations (Heij et al., 2013, Armbruster et al., 2008, Kirner et al., 2008).

Management innovations are defined as the creation and implementation of new management practices, processes, structures and techniques that represent a significant departure from current practices and norms (Birkinshaw et al., 2008). The concept of management innovation, as a distinct type of innovation, is still in its infant phase in research formulation and confirmation. Only recently have there been attempts of systematizing the research area by observing it within an integrative research framework with pertaining factors, dimensions and results of management innovation (Crossan, Apaydin, 2010, Heij et al., 2013). Birkinshaw et al. (2008) state three factors that distinguish management innovations from other types of innovation: 1) Management innovations outputs are typically intangible and abstract in nature; they do not require special expertise and infrastructure (as is the case with technological innovation, which often require the establishment of a special R&D department, special expertise and sufficient funds), which may lead to a higher level of ambiguity and uncertainty than in other types of innovation, 2) Management innovations have a greater scope than other forms of innovation, 3) The changes in practices, processes and/or structure within the organization are more comprehensive and affect the activities of the management and the way people work with each other. The social dimension is emphasized, primarily through the impact on the organizational culture, attitudes and norms of employees.

The attempts to classify management innovations are rare, probably among other things, due to the above mentioned reasons. The term dimensions of management innovation has often been used in the literature. As such, the most commonly used and which stem from the main definition of the term have already been mentioned: practices, processes, structures and techniques (Mol, Birkinshaw, 2009). In the literature, there are also attempts at differentiating organizational innovations into structural organizational innovations and procedural organizational innovations (Armbruster et al., 2008, 646). In this context, organizational innovations actually correspond to the concept of management innovations. Structural organisational innovation imply introduction of procedures which change and improve the organisational structure, i.e. division of labour in individual activities, forming of organisational units and establishment of coordination mechanisms. These innovation types influence and change responsibilities, accountability, command lines and information flows as well as the number of hierarchical levels, division of organisational functions, etc. Examples of such innovation could be the introduction of a new organisational unit, establishment of process- and/or project organisational structure. Procedural organisational innovations affect the routines, processes and operations (operating activities) of an organisation, and can be carried out without a radical shift in the core components and their relationships within an organisation (Makó et al., 2013). These innovations change or implement new procedures and processes. They may affect the speed, flexibility or quality of business processes. Examples of such innovations may include implementation of quality circles, quality management systems according to ISO norms, implementation of benchmarking, etc. The concept of management

innovations will be tested on a sample of local government units in Croatia in the empirical part of the paper, in order to determine the potential types of management innovation, and in the wake of the previous research background.

## **1.2. Management innovations in the public sector**

Generally, the concept of innovation and innovating is under-researched in the public sector, and that particularly relates to management innovations. Just thirty years ago public sector has become an area of more detailed scientific research and reflection about improvement and excellence regarding organizational and management aspect. This is especially emphasized for the services provided by local government, which is considered to be better than central government bodies in recognizing the needs of residents in their area, and that is why local government can provide better and more rational public services. Because of this, the public sector is very interesting in terms of innovation. Also, interest in researching the management innovations in the public sector, that is, local government stems from its recent and still ongoing reforms of local government which are marked by a series of innovations in management.

The conceptualization of innovation in public organizations differ from those in private because of the many differences between the two sectors. Organisations in the public sector do not operate on market principles and are not aimed at earning profits. Also, they are not so exposed to threats of intense competitive pressures, that is, their survival is not significantly compromised. Similarly, users of public services generally have no ability to change service provider, i.e., to replace it with other providers in case of dissatisfaction with the provided quality of service. Organisations in the public sector do not operate according to market principles, which means that public organizations have different social goals, such as the increase in the quality of living standard of the population, and consequently the incentives and barriers to innovation are different from those in the private sector.

Another difference relates to the nature of the process of innovation, that is, the very purpose of improving services and management. In the public sector, the purpose of innovation, for example of new improved services, is to spread them further to other organizations in the public sector, and thereby to affect the overall increase of public value. Thus, the adoption of new ways of managing and new services in the local government that have proved successful should be further "transfer" to other units of local government, in order to equalize the quality of service for users throughout the state. On the other hand, innovation in the private sector is characterized by strong competitive pressures, cooperation between strategic partners and restricting the sharing of best practices, namely, innovations.

During the last twenty years, intensive public sector reforms have been carried out in Croatia, as in other Central and Eastern European countries, aimed at increasing the efficiency and effectiveness of the public sector. These reforms include the reforms of state administration, regional and local governments. It can therefore be concluded that the local government is pressured to introduce change, and that such institutional requirements have an impact on the introduction and implementation of management innovations in cities and municipalities.

## **2. Challenges in the development of local government in Croatia**

The interest for research on management innovations in the public sector, i.e. local government, arises from the recently launched and still undergoing reforms of local government, which involve a series of innovations in management. Public sector reforms represent an even greater imperative for Central and

Eastern European countries, as they, in addition to economic reasons, need to built institutions of political democracy. The local government system in the Republic of Croatia, as well as in other countries in the region, with a similar background of economic and social development, has many limitations in terms of effectiveness and economic rationality. The major challenges in the modernization of the local government system in Croatia are the territorial reorganization of the local government system, functional and fiscal decentralization and capacity building of a rational and effective management.

The present territorial organization of local government units consists of 128 cities and towns, 428 municipalities and the country's capital, the City of Zagreb, which has dual status, that of a city and that of a county. According to the available data most units (357 or 64.2%) has a population of 1.001-5.000, while units whose population is moving up to a maximum of 10.000 make up 86.7% of all local government units, i.e. cities and municipalities (State Audit Office, 2013). Accordingly, cities and municipalities in Croatia have an average of about 7,700 residents. For example, Denmark, which is in terms of population and size comparable to the Croatia, after the reform of the public administration has less than one hundred municipalities and their local government unit has an average of 56,000 residents.

Most of the units have weak financial capacity, i.e. 88.2% of local government units realizes revenue of up to 50,000,000.00 kn (State Audit Office, 2013). By comparing the resulting share of local revenues in general government revenues, which is one of the indicators of fiscal decentralization, it is concluded that the Republic of Croatia in relation to the developed EU countries, but also countries in transition, has a lot weaker financial capacities. Thus, the average share of revenue of local government in general government in the European Union amounted to 27.3% in 2009, while the highest degree of decentralization has Denmark where this percentage is above 63%. As for the transition countries, the largest share of local revenues in the revenues of the general government has Poland with 37.2%. In Croatia this share amounted to 18.2%, which means that the Croatian financial capacities of local government units are in a significant disadvantage for those of more developed, and that the Croatian system of local government is rather centralized.

The existing system of local government requires significant changes. The irrationally large number of local government units and of employees in its various governing bodies affect the level of public spending. Practice shows that some local government units have, due to the lack of adequate administrative and financial capacities, difficulties in meeting the needs of their citizens. Therefore, the reform of local government should be aimed towards developing more transparent, efficient, responsive and responsible local government units. On such basis, it is possible to expect a higher level of implementation of new concepts and management methods and their successful implementation.

### **3. Empirical evaluation of types of management innovations in local government in Croatia**

Based on the theoretical background in the introductory part, the concept of management innovations and potential typology will be examined on a sample of local government units in the Republic of Croatia. The concept of management innovation is in its initial conceptual design and certification, and as such there are no prevailing standardized measures for measuring such variables. For this reason, the authors opted for factor analysis as it should result in valid and reliable measures of management innovation.

The empirical research was carried out through a survey conducted in Croatian local government units during 2013. There are 128 towns and cities and 428 municipalities in the Republic of Croatia making a

total population of 556 local government units. The questionnaire, i.e. online survey, was sent out to all towns/cities and municipalities by E-mail. Due to difficulties in contacting some government units, the total number of towns/cities and municipalities which received the questionnaire was 450. The final response rate amounted to 15%, which makes a total of 70 local government units. The questionnaire was intended for higher management. The questionnaire was sent by e-mail to officials heading administrative departments or similar organisational departments, as they are best-acquainted with the problem matter cited in the questionnaire.

A factor analysis of variables, i.e. statements which best describe management innovation, was conducted in order to establish the common characteristics of several variables and in order to gain a reliable measuring instrument of management innovation. In the questionnaire, the respondents were asked to rate individual statements for all innovation measures on the Likert scale from 1 to 5, indicating the implementation level of individual innovations in their local government units. The retrospective period of analysis for all innovation was 10 years, i.e. the respondents were asked to rate the level of implementation of individual innovations during the past 10 years. This length of period was chosen, because the three year periods set by previous research, actually showed those who lag behind in innovations as 'innovative', and those who adopted innovations earlier as 'uninnovative' (Armbruster et al., 2008, 655). Namely, an organization implementing the concepts of quality management or supply chain management may feel the benefits from their application for more three years after their initial deployment, in fact, for as long as these innovations can adequately respond to the circumstances in the environment. This also implies that management innovation does not 'age' as quickly as product innovation.

Table 1 gives the questionnaire statements measuring management innovation, the calculated means for each statement and standard deviations as measures of dispersion.

**Table 1** Management Innovation in Local Government Units and Descriptive Statistics

	Mean	SD
Cutting out various layers of management (e.g. level of offices, department, division...).	2,43	1,22
Changes to the structure of the city/municipal administration (e.g. renaming of departments, divisions, offices, heads of administrative departments, increasing the number of departments...).	2,35	1,16
Implementing a new system for measuring and evaluating employees.	2,84	1,35
Implementing a new system for measuring and evaluating management.	1,89	1,18
Implementing a new system of rewarding employees.	2,18	1,27
Implementation of a rewards system for management.	1,73	0,99
Establishing criteria for management promotion.	1,54	0,93
Establishing criteria for employees promotion.	2,09	1,20
In managing projects recognized methodology and techniques of project management has been used.	2,78	1,32
Heads of administrative bodies and other employees are using specialized software for project management in their work.	2,55	1,42
Teamwork forming is formally regulated.	2,33	1,50
A system of job rotation on other jobs for purpose of developing and promotion has been formally established.	1,78	1,10
Delegating the planning and decision making from higher levels to lower.	3,05	1,31
A new system of training employees has been formally established.	2,65	1,34
A quality management system according to ISO standards has been implemented.	1,96	1,45

Regular use of benchmarking (comparison of your own results with other local governments units in the country and abroad ).	2,79	1,42
Regular exchange of experiences and advices with other local governments units about their best practices in dealing with certain issues.	3,88	1,01

*Source: Authors*

As can be seen from Table 1, the highest implementation level mean (3.88) in Croatian local government units is realised during regular exchange of experience and advice with other local government units based on best practice examples in solving certain issues. Such practice may be the result of central government alignment. However, the fact that such a regular practice has been only recently introduced for the first time in local government, makes it a management innovation. This is in accordance with the theoretical assumptions of management innovation which encompass cooperation with other stakeholders i.e. the communication among organization members and the communication between organization members and the environment (Vaccaro et al., 2012, Armbruster et al., 2008, Edquist et al., 2001, Damanpour, Gopalakrishnan, 2001, Damanpour et al., 1989). The Oslo Manual (2005) also highlights these activities and gives special emphasis to external relations. This marks the difference between technological and non-technological forms of innovation. Namely, what is specific for non-technological forms of innovation is that they generally do not arise from institutionalized research and development activities and primarily result from the cooperation and active relationship with the environment. The second ranked management innovation is delegation of planning and decision-making from higher to lower level, with a (3.05) implementation level mean. The establishment of criteria form management's advancement is the least present management area in towns/cities and municipalities with a 1.54 implementation level mean.

A factor analysis of management innovation statements was conducted with the objective to reduce the great number of original variables that represent individual types of implemented innovations to a smaller number of variables grouped into common factors. The factor analysis with oblique rotation based on seventeen original variables measuring management innovation extracted two actors. The eigenvalue value of the extracted factors was over one. The results of the factor analysis are presented in Table 2.

**Table 2** Factor Analysis for Management Innovation

Factors	Factor Loads	Eigenvalue	Cum. % variance explained	Cronbach $\alpha$
<b>Factor 1: Procedural Management Innovation</b>		7,432	46,451	0,908
Implementing a new system of rewarding employees.	0,902			
Establishing criteria for management promotion.	0,894			
Implementation of a rewards system for management.	0,880			
Establishing criteria for employees promotion.	0,773			
Implementing a new system for measuring and evaluating management.	0,737			
Regular use of benchmarking (comparison of your own results with other local governments units in the country and abroad ).	0,655			
A quality management system according to ISO standards has been implemented.	0,546			

Factors	Factor Loads	Eigenvalue	Cum. % variance explained	Cronbach $\alpha$
Implementing a new system for measuring and evaluating employees.	0,527			
Regular exchange of experiences and advices with other local governments units about their best practices in dealing with certain issues.	0,476			
<b>Factor 2: Structural Management Innovation</b>		1,443	55,472	0,876
Heads of administrative bodies and other employees are using specialized software for project management in their work.	0,906			
Teamwork forming is formally regulated.	0,830			
Delegating the planning and decision making from higher levels to lower.	0,722			
A system of job rotation for purpose of developing and promotion has been formally established.	0,605			
In managing projects recognized methodology and techniques of project management has been used.	0,594			
Changes to the structure of the city/municipal administration (e.g. renaming of departments, divisions, offices, heads of administrative departments, increasing the number of departments...).	0,437			
A new system of training employees has been formally established.	0,420			

*Source: Authors*

According to the characteristics of individual statements, i.e. individual implemented innovations, the first factor was named "procedural management innovation" whereas the second "structural management innovation". The factors together explain 55.47% of the variance. Such differentiation of management innovation is in accordance with the classification of management innovation and was listed in the theoretical part (Armbruster et al., 2008, 646). In this manner, it is possible to see which types of management innovations are more effective, i.e., which have proven to be more successful in this environment. Once the factors had been established, the reliability of the questionnaire was analysed in order to see whether the used questionnaire is an adequate measuring instrument i.e. that the same measuring indicators will be obtained in repeated measuring. The Cronbach  $\alpha$  coefficient was established for each factor separately. The higher the value of the Cronbach  $\alpha$  coefficient, the higher the reliability of the analysed scale, i.e. it shows that variables of the same factor indeed measure the same phenomenon. Table 2 shows that variables within the factors have a satisfactory level of correlation, thus verifying the reliability of the research, as the acceptable reliability level is determined if the value of the Cronbach  $\alpha$  coefficient  $> 0.60$  (Nunnally, 1978, Churchill, 1991).

#### 4. Implications

The research results provide several theoretical and practical implications. The concept of management innovation, as a distinct type of non-technological innovation, is still in its initial conceptual design and certification. This paper analysed management innovations and highlights the importance of and the need for a more intensive study of these innovations.

The measurement of management innovations was carried out based on the original statements composing individual types of management innovation. The factor analysis resulted in a reliable and valid measure. In addition, the factor analysis extracted two factors of management innovations, which are in line with one of the theoretical classification of management innovation: structural management innovation and procedural management innovation. At the same time, the use of the original measures for management innovation implementation variable can be a limitation of this study, as used measure have not yet been confirmed as valid in other empirical studies. It can generally be concluded that structural and procedural management innovation variables were rated as reliable and appropriate measurement instrument of management innovation, and these results imply that it is expedient to further research the field of management innovations along the lines of obtained typology.

The institutional environment of local government in Croatia, as well as in other countries in the region undergoing local government reforms, through a variety of regulations, actually commits towns/cities and municipalities to reorganize and thus strongly impacts their activities. As a result, many cities have started to implement new organization and management methods. At the same time, the degree of decentralization in Croatia is low at about 7.6% (the share of expenditures of lower levels of government in GDP) in comparison to old EU member states, where it is about 16.2%, which implies that the real capacities for the development and implementation of innovation in local government are low and much remains to be done at the level of the entire public administration system.

According to some authors, the specific characteristics of management innovation is their interdependent relationship with product and process innovations and their social dimension, since they influence the organizational culture and the attitudes and norms of the employees (Kohl, Depner, 2010). By doing so, they create an organisational environment which accepts and manages changes more easily and which is more focused on the set objective and strategy. Therefore, the assumption is that this environment is also connected with a higher level of emergence of other innovations and innovativeness in general. Therefore, it is useful to view management innovation as an approach in improving the management of changes in public sector organizations and thereby ensuring higher levels of quality and rationality of public services provided by local government units.

## **5. Conclusion**

Non-technological innovation as a research area are underrepresented in relation to technological innovation. The dominant aspect of technological innovation encounters much criticism, because it does not fully include innovation in the service sector and ignores many important non-technological elements of innovative organizational activities. Non-technological innovations are related to organizational restructuring, human resources and management methods and are often found in the causal relationships with technological innovations. Non-technological innovations are much more difficult to replicate in relation to the technological forms of innovation, because of their nature, which is largely abstract and intangible. Similarly, this kind of innovation can contribute to long-term competitive advantage, particularly in terms of when organizations are faced with increased competition and an accelerated pace of technological change. Management innovations as a special type of non-technological innovation represent the creation and implementation of new management practices, processes, structures or techniques.

The attempts to classify management innovations are rare. The term dimensions of management innovation has often been used in the literature i obuhvaća practices, processes, structures and techniques. In the literature, there are also attempts at differentiating organizational innovations into structural organizational innovations and procedural organizational innovations. As the subject of

management innovations is relatively unexplored, and which primarily refers to the public sector, in this paper on a sample of local government in Croatia the concept of management innovation was examined. The need for research management innovations within the public sector is further accentuated by the current public administration reforms, which aim is to increase the efficiency and effectiveness of public services, and that are characterized by a series of innovations in management.

The factor analysis resulted in a reliable and valid measure, and two factors of management innovations were extracted, which are in line with one of the theoretical classification of management innovation: structural management innovation and procedural management innovation. According to the obtained results it can be concluded that it is purposeful to further test the resulting typology in the context of public sector, but also within the private sector.

It can be concluded that the average total level of management innovation implementation in croatian local government is low (average score 2.4). Such a situation can be explained, among other, by the fact that the financial capacities of local government units in Croatia are in a significant disadvantage to those of more developed, and that the Croatian system of local government is rather centralized. Likewise, local government system has the characteristics of irrationality, with the attributes of small units which have insufficient financial, human, and thus management capacities. The reorganization of the system of local government should create conditions for achieving greater efficiency and effectiveness in public service delivery. On such basis, it is possible to expect a higher degree of implementation of new concepts and management methods and their more successful implementation. The importance of implementation of management innovation is emphasized in the conditions when the public sector is facing intense demands to achieve greater performance, that is, cost rationalization, higher quality of public services and professional management resources. Recent studies confirm that the implementation of management innovation in the context of public sector may affect the rationalization of costs, higher satisfaction of service users and the development of professional skills of personnel, which can manifest itself, for example in the capacity of absorption of EU funds (Grčić Fabić, 2015).

## REFERENCES

- Armbruster, H., Bikfalvi, A., Kinkel, S., Lay, G. (2008): *Organizational innovation: The challenge of measuring non-technical innovation in large-scale surveys*, Technovation, Vol. 28, No. 10, pp. 644–657.
- Birkinshaw, J., Hamel, G., Mol, M.J. (2008): *Management innovation*, Academy of Management Review, Vol. 33 No. 4, pp. 825-845.
- Churchill, G.A. (1991): *Marketing Research: Methodological Foundations*, The Dryden Press, London.
- Crossan, M.M., Apaydin, M. (2010): *A Multi-Dimensional Framework of Organizational Innovation: A Systematic Review of the Literature*, Journal of Management Studies, Vol. 47, No. 6, pp. 1154-1191.
- Daft, R.L. (1978): *A Dual-Core Model of Organizational Innovation*, Academy of Management Review, Vol. 21, No. 2, pp. 193-210.
- Damanpour, F., Gopalakrishnan, S. (2001): *The dynamics of the adoption of product and process innovations in organizations*, Journal of Management Studies, Vol. 38, No. 1, pp. 45-65.



- Damanpour, F., Szabat, K.A., Evan, W.M. (1989): *The relationship between types of innovation and organisational performance*, Journal of Management Studies, Vol. 26, No. 6, pp. 587–601.
- Edquist, C., Hommen, L., McKelvey, M. (2001): *Innovation and employment: Process versus product innovation*, Edward Elgar Publishing Limited, Cheltenham
- Grčić Fabić, M. (2015): *Management innovation in developing local government effectiveness in the Republic of Croatia*, PhD thesis, University of Rijeka, Faculty of Economics.
- Heij, C.V., Volberda, H.W., Van Den Bosch F.A.J. (2013): *How to leverage the impact of new technological on product and service innovations: The complementary effect of management innovation*, Working paper, Rotterdam School of Management, Erasmus University, Rotterdam.
- Kirner, E., Som, O., Armbruster, H., Lay, G., Zhou, W. (2008): *Measuring organisational innovation – concepts, indicators and outcomes*, 6 CP Workshop-Non-Technical Innovations – Definitions, Measurement and Policy Implications. Karlsruhe: Fraunhofer Institute for Systems and Innovation Research (ISI).
- Kohl, H., Depner, H. (2010): *The Implementation of an Organizational Innovation: Examples of Mass Customizing Firms of the Capital Goods Industry*, International Journal of Industrial Engineering and Management (IJIEM), Vol. 1, No. 3, pp. 85 – 95.
- Makó, C., Csizmadia, P., Illéssy, M., Iwasaki, I., Szanyi, M. (2013): *Diffusion of innovation in service firms: Hungarian versus Slovakian business service firms*, Journal for East European Management Studies, Vol. 18, No. 1, pp. 135-147.
- Mol, M.J., Birkinshaw, J. (2009): *The sources of management innovation: When firms introduce new management practices*, Journal of Business Research, Vol. 62, No. 12, pp. 1269-1280.
- Nunnally, J.C. (1978): *Psychometric theory*, McGraw Hill, New York
- OECD (2005): *Oslo Manual: Guidelines for Collecting and Interpreting Innovation Data*, 3rd Edition 2005:  
<http://www.oecd.org/sti/inno/oslomanualguidelinesforcollectingandinterpretinginnovationdata3rdedition.htm> (accessed February 2016)
- State Audit Office (2013): *The report on the audit of the effectiveness of revenue collection in the local and regional governments units*:  
<http://www.revizija.hr/izvjesca/2013/izvjesce-o-obavljenj-reviziji-ucinkovitosti-naplate-prihoda/izvjesce-o-obavljenj-reviziji-ucinkovitosti-naplate-prihoda-1.pdf> (accessed February 2016)
- Vaccaro, I.G., Jansen, J.J.P., Van Den Bosch, F.A.J., Volberda, H.W. (2012): *Management Innovation and Leadership: The Moderating Role of Organizational Size*, Journal of Management Studies, Vol. 49, No. 1., pp. 28–51.

**Goran Kutnjak, Ph.D. Associate Professor**

Faculty of Economics

I. Filipovića 4, Rijeka

Phone: 051 355 103 Fax: 051 212 268

E- mail address: goran.kutnjak@efri.hr

**Mirjana Grčić Fabić, Ph.D.**

Faculty of Economics

I. Filipovića 4, Rijeka

Phone: 051 355 137 Fax: 051 212 268

E- mail address: mirjana.grcic.fabic@efri.hr

**Dejan Miljenović, Ph.D. candidate**

Faculty of Economics

I. Filipovića 4, Rijeka

Phone: 051 355 137 Fax: 051 212 268

E- mail address: dmiljeno@efri.hr

## **CORRUPTION IN CROATIAN SOCIETY AND ENTREPRENEURSHIP**

### **KORUPCIJA U HRVATSKOM DRUŠTVU I PODUZETNIŠTVU**

#### **ABSTRACT**

*Corruption is one of the most significant limitations of society growth and development, aggravating global problem and undesirable social phenomena. Corruption implicates reduction of economic efficiency, increasing lack of competitiveness, bringing lower investment opportunities and slower economic growth. This phenomenon is a great obstacle to public service efficiency and employment growth because it is leading to higher poverty and above all instability, dissatisfaction and inequality among citizens. Presence of corruption has become the "conduct" of living and behaving in certain countries, while in others such activities occur in a much lesser extent. Generally, frequency of corruptive activities in society is on a relatively high level with a presence in all segments of social structures. Unfortunately, corruptive determination has become a reality of overall Croatian society including its entrepreneurial environment. Significant part of Croatian society and entrepreneurship is freely accepting corruption as a concept "modus operandi" because this predominates their future existence. Corruption is a negative theorem of Croatian national being which destabilizes national economic and social integrity which is already fragile due to a fact that corruption is an obstacle to operations of business subjects and entrepreneurship development. Corruption is a challenge for everyone – there is no country whit its absence, however each country has to oppose it aggressively and fight it with all available measures. In this paper the authors diversify kinds and forms of corruption actions, indicate corruption measurability in global and regional scales and its consequences in the terms of weak Croatian competitiveness. In the same time within this paper authors define segmentation and frequency of corruption in Republic of Croatia and also trying to implicate the importance of anticorruption measures with a goal of neutralizing this relevant social problem.*

**Keywords:** Corruption, Society, Croatia, Entrepreneurship, Anti-corruption measures

## SAŽETAK

*Korupcija jest jedan od najvećih ograničavajućih čimbenika rasta i razvitka ukupnog društva, odnosno globalni problem i nepoželjna društvena pojava koja implicira smanjenje ekonomske učinkovitosti, povećanje nekonkurentnosti, smanjenje investicija, usporavanje gospodarskog razvoja, smanjenje učinka javnih službi, smanjenje zaposlenosti, povećanje siromaštva te sve veću nesigurnost, nezadovoljstvo i nejednakost građana. Zastupljenost korupcije postala je u pojedinim zemljama "pravilo" življenja i ponašanja, dok se u drugim zemljama koruptivne aktivnosti javljaju u znatno manjoj mjeri. Općenito govoreći, učestalost koruptivnih aktivnosti u društvu je na relativno visokoj razini i prisutna je u svim segmentima društvenog života. Nažalost, koruptivna je determiniranost (p)ostala i realnost ukupnog hrvatskog društva i poduzetničkog okruženja, a od (samo)prihvatanja tog "modus operandi-a", nažalost, ovisi i (samo)opstojnost jednog dijela hrvatskog društvo i poduzetničkog okruženja. Korupcija je negativni teorem hrvatskog nacionalnog bića koji s različitih razina destabilizira i ovako nestabilan hrvatski ekonomski prostor, a korupcijske se aktivnosti ocjenjuju preprekom samog poslovanja poslovnih subjekata i razvitka poduzetništva. S druge strane, korupcija je izazov svima - nema zemlje u kojoj nije prisutna, ali isto tako svaka joj se zemlje mora najagresivnije suprotstavljati i svim mjerama protiv nje boriti. U okviru ovoga rada autori su nastojali definirati učestalost korupcije u Republici Hrvatskoj, diverzificirati vrste i oblike koruptivnih radnji, ukazati na mjerljivost korupcije u svjetskim i regionalnim okvirima i njene posljedičnosti u smislu slabljenja konkurentne pozicije Hrvatske, ali i ukazati na važnost antikorupcijskih mjera u svrhu neutraliziranja tog društvenog problema.*

**Ključne riječi:** korupcija, društvo, Hrvatska, poduzetništvo, antikoruptivne mjere

### 1. Introduction

Corruption as a social phenomenon has no historical dimension regarding its "expiry date". This is due to the fact that corruption was socially recognized and unfortunately widely accepted since the early days of history, almost within every national society to present time. Today there is no society which is not faced with this problem, whether the corruption is highly represented in society or the society is only infected with this "disease" of modern age. Unfortunately, in some social structures this "infection" has grown into chronicle disease whose consequences are almost impossible to cope with and where even anticorruption measures don't give significant results when it comes to compromising or neutralizing such activities. When corruption takes such "epidemiological" character citizens lose confident in their state and its institutions. Gradually even tendency of degrading their individual moral integrity can be potentially emerged. This is particular case when citizens recognize violations of their rights and freedoms provided by constitutions and laws due to the presence of corruption. This can even lure individuals into temptation to actively and passively engage in corruption activities only because they are also victims of such, very influential, social climate. Corruption is negative theorem of Croatian national being which additionally destabilizes already unstable Croatian economic sector. Corruption by itself represents extremely complex, negative and hard to measure process which is of great difficulty to be proven. Therefore it represents a "...threat to every society and it is an international problem, extremely manifested in emerging market countries where democracy is freshly established as a political system. In recent years high levels of corruption are identified in global processes and this significantly affects national economies" (Petričić, 2009, 55). Corruption definitely has a devastating effect to the rule of law, preventing all citizens in gaining equal access to public services, it affects public confidence in state institutions and it becomes serious obstacle for economic and social development, particularly in young democracies" (United Nations Office on Drugs and Crime, 2011, 8).

## 2. The definition of corruption and its basic characteristics

Respecting numerous definitions of corruption, the fact is that the content of the term corruption is found in the Latin word "*corruptus*", which means underpayment or bribery in order to obtain the benefits to which there are no legal reasons. It is evident that this is about incrimination referring the abuse and undertaking illicit actions while performing state, public and other duties in order to achieve personal, financial or other material benefits. This is a procedure involving at least two people, one of which realizes its benefits from illicit actions while harming the public interest and violating moral and legal norms of a certain state, while the other person is a provider or assignor of certain material or other intangible "value", which as such is also violating moral and legal regulations of the state. Therefore, the corruption itself and all kind of corrupted activities are called "moral wickedness." Corruption is closely related to organized and economic crime. It has negative effects for individuals and the state as a whole. It is manifested by the reduction of state revenues, growth of unnecessary budget spending, lower efficiency of public services, reduction of employment, increase of poverty and growth of insecurity, which overall is leading to dissatisfaction and inequality of citizens. Key determinations of corruption imply "... any misuse of public power for private gain of person that is performing public service.... and is closely related to the term of conflict of interest while performing public services" (Derenčinović, 2001, 172). It can also be determined as "... complex forms of crime with blurred boundaries so it is often difficult to distinguish perpetrators from the victims" (United Nations Office on Drugs and Crime, 2011, 8). Corruption is a "misuse of public position for private purposes and it is always a consequence of asymmetric information's where one party has less information than the other. ... Corruption affects the increase in transaction costs also as in any kind of taxes and it leads to investment reduction, slowing the economic growth. It can also affect the slowdown of economic development by reducing the quality of infrastructure, public services, tax revenues and bad allocation of resources because it discourages production activities (Babic, Požaić, 2008, 16). Consequences of corruption and corrupt activities in business context are manifested in a "reduction of economic efficiency which has a negative effect on growth and development" (Budak, 2006).

Corruption is driven by two factors, namely the selfishness and greed. For selfish individuals, there is the so-called "blackout of vision" during which they respect only themselves finding justifications for their corrupted behavior and not seeing how they can hurt other people. Simply, they try to justify themselves by the fact that such behavior is necessary and there was no other way to avoid the given situation. Greed is also a part of the human nature, and it can be determined by the existence of a desire for success and a better financial situation. In other words, individuals can not get enough of material and financial values as well as status symbols so they are always dissatisfied with what they currently have. Based on the foregoing, scientific interpretations also determined the specific causes leading to corruption effects, which are manifested in: a) the culture, traditions and life values, b) the organizational structure of the institutions, c) weaknesses of national integrity, d) weaknesses in the bureaucracy, which creates obstacles for businesses and e) the quality of the state institutions (Udruga C-Centar, 2012).

There are different classifications of corruption according to its types and forms. The simplest division is on: a) small and b) large-scale corruption. This breakdown is based on the size of involved assets. More complex division implies next forms of corruption (Budak, 2006):

1) **Political corruption** – which is present among highly ranked government officials and politicians with political power and the right to make political decisions. This type of corruption always involves abuse of political processes when politicians can use their position for acquisition of money and power or with intention to damage their opponents. This type of corruption is characteristic for transition countries because they underwent a great number of law changes in a very short time. "Political corruption is the abuse of entrusted power by political officials for private gain with an objective to increase their authority or acquire wealth." (Hodess, 2004, 154). Political

corruption is a direct threat to democracy where the entire state system becomes ignored, denied, deceived and looted exactly by those entities that should primary guard and obtain value of the system by establishing and preserving the rule of law within the society. The forms of political corruption are (Budak, 2006, 67): a) embezzlement of money in the political system of a country by political candidates and politicians in public service; b) non-transparent cash flows in politics; c) enabling the private sector to "buy" political influence; d) corruption during the electoral process; e) the impact on the country legal system by inefficient processing and protecting the criminal acts of corruption; f) the impact on the legislative authority in a way to "legalize" more favourable treatment for certain interest groups. As can be seen from the above described forms, political corruption itself has great application in politics; and it is also used in the purposes of financing political parties.

2) **Administrative corruption** – it occurs at lower levels of the state administration. Citizens face such corruption mainly when contacting with government officials. It involves giving small bribe, the so called "gift", in exchange for a quick resolution of some procedure or in the case of avoiding penalties, worth up to 500 Kuna<sup>1</sup>. Administrative corruption in Croatia is much less statistically represented than political corruption. This is due to the impossibility of recording the number of cases of administrative corruption as well as determining the quantified amounts that would represent actual levels damage from it. Reason for this is a small number of reported cases of administrative corruption because it is treated as a specific "code of conduct". "Administrative corruption is usually the *sin of the individual* i.e. the public official who is consciously doing illegal activities for the sake of personal gain – bribe or some other benefit – violating the existing rules in order to enable or confer its bribers with some benefit, right or a permission" (Šimac, 2004). Administrative corruption occurs in situations where e.g. employee improperly helps an individual for payment, which refers to: a) issuing licenses and certificates; b) allowing for more privileged treatment; c) facilitating the avoidance of paying fines; d) voluntarily treatment of tax payments by the taxpayer. The most common forms of administrative corruption are (Croatian Ministry of Justice, 2015): a) bribery, b) fraud, c) conflict of interest, d) bias, and e) extortion.

3) **A dangerous type of corruption, the so-called "private state"** – this is a very harmful type of corruption that is using means of political corruption (illegal party financing, bribery and trading influences). This is a case where a group of individuals with certain economic interest may "privatize" some state institution for this interest and because of what this institution ceases to serve the public interests and begins to work by "principles" of the individuals who put it in their area of influence. Corruption of the so-called "private state" contributes the creation of connections between political and economic elites that can result in laws favouring only them while the rest of majority comes in unequal position without proper legal treatment.

The effects of above elaborated types of corruption lead to serious direct and indirect consequences. These consequences manifest themselves in a loss of sense for equality of every person before the law, which leads to frustration and distrust in the system and the state institutions. Corruption negatively affects economic development, human labour gets devalued, disparaged i.e. derogated while preventing all aspects of affirmation and development of possibilities.

### 3. Measuring Croatian and global scales of corruption

Corruption is extremely difficult to quantify or to materialize. The reason for this is a fact that money is not the only "mean of communicating" interests, but this can be done through different benefits, privileges and gifts. No one can specify consequences in terms of annual damages arising from illegal corruption activities. In practice, the most popular measurements of this issue are carried out by Transparency International (CPI – Corruption Perceptions Index) and measurements

---

<sup>1</sup> Value equivalent of 65 Euros.

carried out by the World Bank (CoC – Control of Corruption). The Corruption Perceptions Index ranks countries by their perception of corruption that is outspreaded among state officials and politicians. This is a combined index because it relies on data obtained from existing research that was carried out by a variety of reputable institutions. Countries receive index values range from 0 (total corruption) to 10 (without corruption). A total of 178 countries are being assessed. The following table lists some of the Transparency International quantifications.

**Table 1** Presence of corruption by rank in various countries of the world and Croatia in relation to the region in 2015

Corruption presence in some countries and the region													
The least corrupted countries					The most corrupted countries					Croatia in comparison with the countries of the region			
Rank	Country	Corruption Perception Index	No. of studies	Standard Error	Rank	Country	Corruption Perception Index	No. of studies	Standard Error	Rank	Country	Corruption Perception Index	No. of studies
1.	Denmark	91	7	2,2	1.	Somalia	8	4	2,3	16	Austria	76	7
2.	Finland	90	7	1,8	2.	North Korea	8	3	3,4	35	Slovenia	60	9
3.	Sweden	89	7	1,7	3.	Afghanistan	11	4	3,5	50	Croatia	51	9
4.	New Zealand	88	7	2,4	4.	Sudan	12	6	3,6	50	Hungary	51	9
5.	Netherlands	87	7	1,8	5.	South Sudan	15	3	1,5	61	Italy	44	7
6.	Norway	87	7	3,0	6.	Angola	16	5	1,8	61	Montenegro	44	4
7.	Switzerland	86	6	2,6	7.	Libya	17	5	3,2	66	Macedonia	42	6
8.	Singapore	85	8	2,0	8.	Iraq	18	4	2,5	71	Serbia	40	7
9.	Canada	83	7	1,6	9.	Venezuela	18	7	2,6	76	Bosnia&Herz.	38	6
10.	Germany	81	7	2,5	10.	Guinea-Bissau	18	4	2,6	-	-	-	-

Source: Transparency International (2015): *Corruption Perception Index: Data and Methodology*: <http://www.transparency.org/cpi2015#downloads>, (accessed February 2016)

Transparency International is a non-profit organization founded in 1993 and based in Berlin, which is systematically engaged in fighting national and international corruption. The organization currently has about 80 branches in the world and in the Republic of Croatia it was established in the year 2000, although it was present even before as a non-registered institution. As it can be seen from the Table 1 the least corrupted countries in the world are Denmark, Finland, Sweden and New Zealand. The leading place along the most corrupted countries in the world belongs to Somalia; following her is North Korea, Sudan and South Sudan. Corruption Perceptions Index in Somalia and North Korea has a value of 8, which is very close to the almost total corruption when taking into account previous definitions and evaluation criteria. Compared to other countries in the region

the Republic of Croatia holds 50th place and it is ranked better than Italy, Montenegro, Macedonia, Serbia and Bosnia and Herzegovina. The same place with the Croatia is shared by Hungary while other countries from the region that are ranked before Croatia are Austria on 16th place and Slovenia at 35th place of the list.

It is a factual state that corruption is a problem of all countries in the world, consequently Croatia is no exception. Reason for this comes from Croatia's inherited bad practices from the times of socialism, especially referring to frequent changes of the existing and introducing new laws. Therefore, many new laws collide with existing laws. Frequent law changes lead to a serious lack of time for application in practice and this weakens their feasibility. This maze of legislation, as well as law deficiencies, became a fertile ground for corruption manifestations, which individuals use to gain their own "advantage". Also, one of the problems in the Republic of Croatia is very late maturation of ethic behaviour and its principles among citizens when compared to the citizens of the Western European countries. Resultant of this is that fraud and exploitation of inconsistencies in the laws very often goes without punishment.

Corruption is a very complex process, which is quite difficult to calculate and properly to be presented. In Croatia there is a relatively high perception of corruption prevalence. Transparency International annually issues a communication on the Corruption Perceptions Index (CPI) where its changes can be analysed through a time span of 12 years. In order to examine and determine the corruption index of an each country it is necessary to gather data from three sources, minimally. All these documents assess levels of corruption in the public sector. Corruption Perceptions Index in 2014 and 2015 was based on 12 sources that are used to provide data for a particular country. Below is a table that shows the Corruption Perception Index in the Republic of Croatia in the period from 2004 to 2015.

**Table 2** *Corruption Perception Index for Croatia and its rank in the world*

Year	2004.	2005.	2006.	2007.	2008.	2009.	2010.	2011.	2012.	2013.	2014.	2015.
CPI	3,5	3,4	3,4	4,1	4,4	4,1	4,1	4,0	<b>46</b>	<b>48</b>	<b>48</b>	<b>51</b>
Rank (Croatia)	67	70	69	64	62	66	62	66	<b>62</b>	<b>57</b>	<b>61</b>	<b>50</b>
Number of countries	146	159	163	180	180	180	178	183	<b>176</b>	<b>177</b>	<b>175</b>	<b>168</b>

Source: Authors based on the data of Transparency International (2015): **Corruption Measurement**

Tools: <https://www.transparency.org/country/#HRV>, (accessed February 2016)

According to the data in Table 2 the Republic of Croatia had its worst Corruption Perception Index in 2005 when it took the 70th place of the ranking list. Today, Croatia's position is substantially improved, and it went higher to the 50th place. However, it must be emphasized that the Corruption Perception Index can not be exactly compared to previous periods (from 2004 to 2011) due to a new calculation method since 2012 which made new methodology data uncomparable to previous years. In the period from 2012 to 2015, it can be determined that the index of corruption in Croatia is the most favourable right in the last year of research, i.e., 2015, which represents a slight improvement when compared to the previous three years.

Regardless of Croatian ranking on the world list of corruption and the Corruption Perception Index itself, there is no doubt from the aspect of recent Croatian history that the late awareness of corruption and corrupt practices expanded during and after the Homeland war. This was a time when individuals used their positions and socio - political influences very well to achieve personal gains, unfortunately on a very doubtful, morally and legally questionable grounds. "In Croatia, the highest level of corruption is present, i.e. manifested in the privatization process during which the state officials had privileged, confidential information and multiple discretion right in decision-

making that enabled themselves and their followers (close relatives, friends, political partners and alike) to ensure favourable conditions when purchasing companies, banks etc. As a result of this there has been a large-scale redistribution of national wealth. Individuals became very rich while the other very poor" (Babic, Pozaić, 2008, 17). Given the time diversification, corruption in the Republic of Croatia matured or grown in three stages (Kregar, 2008, 3):

- a) **In the first stage** was recognition that started by Croatia's independence and lasted until the end of the 90s when corruption was considered morally significant but not as a political problem. There was an absence of extensive measures against corruption, other than conviction.
- b) **The second stage** runs from 2000 to date. This phase involves clear recognition of the problem followed by weak and unsuitable attempts of persecution or measures to prevent corruption risks. This is a phase dominated by words, not deeds.
- c) **The third stage** is in front of us and in which is not enough to adopt laws but to enforce them; not enough to speculate but to measure and weigh priorities. In this stage the means, the people and tasks need to be mobilized.

#### **4. The presence of corruption in Croatian society and entrepreneurship**

Corruption in Croatia can be divided into corruption in the public and the corruption in the private sector. Corruption in the public sector includes corruption activities exactly within this sector or in its relations with the private sector. This corruption includes employees of the public administration, state officials and representatives of the authorities. When corruption takes place between the citizens and the business sector then this is a case of corruption in the private sector. Corruption in the private sector can seriously undermine the financial system of the country. However, the problem of corruption in the private sector is less complex and less harmful than corruption in the public sector. The reason is that corruption in the public sector has very serious consequences for the state development and when the fight against corruption would be started it should be conducted in this sector over all. It is believed that repressing corruption in the public sector can solve corruption of the private sector because they are mainly connected by corrupt practices. The first Report on corruption after accessing Croatia to the European Union showed that Croatia is one of the worst countries in terms of perceived corruption. The reasons for this are numerous corruption scandals in public and private companies. Below are outlined some of these scandals that found their space of activating in different categories and forms of corrupt activity:

**a) The political dimension of corruption** - Corruption in the political environment is almost the widespread, and the reasons for this are undetermined powers and the incompleteness that is present among govern i.e. the legislator. The adopted regulations are superficially arranged because of which there is imminent danger that certain public employee will benefit some individuals while oppressing others. It is impossible to determine such powers and it is responsibility of every individual to be an example for others. However, the apprehension of corruption scandals can give an insight that the situation is not quite like that, exactly the opposite; it is far from desirable or ideal. In some of the most current affairs in politics and entrepreneurship, of which many are still very exposed, forms as "octopus legs" are being determined and individuals prosecuted. Unfortunately, in the end many of them get acquitted by the second-instance verdict for illegal action because when a court process starts there is a regular absence of witnesses and other evidence. One of the most famous and most memorable affairs from the Croatian political domain is affair "Fimi media."

**b) Abuse of public procurement within the public companies** - Public procurement is the most critical economic activity due to the corruption risks and it represents "...a hotbed of corruption and criminal" (Puljić Šego, Bohutinski, 2011). The total value of public procurement in Croatia is annually 42 billion Kuna representing about 12% of the GDP. This type of procurement involves about 1,700 clients and about 5,000 bidders who annually conclude about 22,000 public contracts. A selection criterion that favours the most economic tender is represented only by 0.95% in



Croatian practice while the same criterion at EU level is present in 80% of public contracts. Based on estimates in Croatia almost up to 20% of public procurement procedures are not enough transparently carried out and up to eight billion Kuna of public money is annually spent in insufficiently transparent manner (Croatian Employers Association, 2016). Data show most effectively of what possible "criminal" problem this can be. The goals of public procurement should be the rational use of budget resources, prevention of corruption, positive impact on economic development, employment, environmental protection and legal stability. All this would be positive for the state but the real situation is far from this; there are countless scandals linked to public procurement. The most significant affairs in this area are: affairs in the Ministry of Defence ("Trucks affair", "Patria affair", the affair of the Croatian Motorways ("HAC affair"), affair of the Croatian national electric company ("HEP affair").

**c) Illegal abuse of the liberal market** - Term "liberal" is associated with something positive and good for the community where the state and political parties reduce control of individuals enabling smooth operating of the free market. In the following examples of affairs incriminating facts can be determined i.e. the reverse situation occurs where is almost no elements of liberal market. Such affairs are: affair Croatian Posts ("HP affair") and the affair of the Croatian Postal Bank ("ATMs affair").

**d) Other corruption scandals** - Under other affairs there is an additional focus on some scandals that largely and continuously occupied the media but are also essential for the full display of the corruption state in Croatia. Some of them are: "Gruntovec affair" and the "Brodosplit affair."

The presence of corruption in Croatian companies is large causing serious problems for the Republic of Croatia itself. This paper only lists major corruption scandals, unfortunately not all of them. There are numerous affairs in the so-called "small businesses" with court trials against their managers. These cases are not publicly or media exposed because they are not considered as the most important news. Therefore the conclusion is that there is a high incidence of corruption in Croatian companies and social life overall. The damage for Croatia is enormous and final data is still not precise due to a number of not prosecuted and undocumented corruption scandals that yet have to be detected. However with the current equivalent of corruption activities and its results in the domain of administrative corruption it is difficult, almost impossible, to quantify them because they remain at the level of "small losses" and due to this are nowhere stated.

## **5. Fighting against corruption in Croatia**

The most important international document of the United Nations (UN) against corruption was adopted at the 58th session of UN General Assembly that was held on October 31st 2003. By ratifying the UN Convention Croatia became the 14th country to ratify this international document. By doing this Croatia committed to align her legislation with anti-corruption standards. This can be considered as a start of Croatian struggle against corruption. Actually this was confirmed on March 31st 2006 when Croatian Parliament adopted the National Programme for Prevention of Corruption in the period 2006 - 2008. In this Programme it is emphasized that corruption undermines the rule of law, trust in institutions, security and equality of citizens. It is stated that corruption increases the social differences by encouraging the dishonest way of individual's life while belittle decent people and their painstaking and patient working efforts. By defining the General Objectives of Anti-Corruption Strategy, basic directions of strategic activity were summarized as it follows (The Croatian Parliament, 2015): an increase of integrity, accountability and transparency of public authorities (central and local), strengthening anti-corruption mechanisms of the public authorities, stronger cooperation between public authorities and strengthening capacity of activities aimed at fighting corruption, effective detection and prevention of corruption, consistent and effective implementation of the existing legislative in the field of repressing and preventing corruption, establish procedures of managing corruption risks in the public authorities, strengthening public awareness regarding causes and consequences of corruption and the role of each individual citizen

in preventing corruption, strengthening the role and cooperation with civil society in this field, development of international cooperation when fighting corruption, strengthening the active role of the media in promoting personal and professional integrity. As it can be seen from these general objectives against corruption, there is a larger number of very precise regulations regarding corruption. The reason for this is the high presence of corruption in all aspects of government. However, all these regulations converge in three main approaches (Babic, Požaić, 2008, 18):

- **Administrative and legal reforms** – referred to limiting discretionary rights of public servants and increasing the transparency of their decision-making.
- **Criminal responsibility and moral discrediting of corrupted officials** – relates to pointing out corrupt government officials, especially of those affecting the adoption of laws, protecting the corruption and obstructing its repression.
- **Systematic reforms of the state sector** – refers to increased consistency and reducing the scope of the legal regulations and constructing efficient control mechanisms and institutions.

Battle against corruption in Croatia lasts since the beginning of 2003 to the present day. In its start, anti-corruption measures created good foundations for attempts of resolving corruption scandals and corruption itself. Fight against corruption is long-term, taking more time to change the current situation related with perception of the corruption in the country. Data regarding exposed corruption affairs are certainly praiseworthy. Only such engagement of the state can be successful when fighting against corruption and, in the times that follow, only this can lead to such realizations where suppressing the "roots" of corruption will brought up a conclusion that this menace belongs to the past. Anti-corruption campaign conducted at the proposal of the Croatian Government proved to be a good project for introducing citizens with the corruption problems and the consequences that an individual or an organized criminal organization will have in the case of their incriminating engagement. Due to this the Republic of Croatia established a special body within the Croatian State Prosecutor in 2001; the Office for Suppression of Corruption and Organized Crime (USKOK). Task of this office is more efficient and effective fight against corruption and organized crime. Basic reason for establishing USKOK is that the Croatian government wanted to provide specialized and effective body at the state level that would deal with this very serious problem. This stems from the facts and demands, because the corruption occurs in all areas of life and citizen activity and there is a need to use appropriate mechanisms in fight against it. A successful fight against corruption starts from the very individual who articulate high intolerance on corruption, reject any participation (active or passive) in corruptive activities and unconditionally cooperates and reports corruption to competent law enforcement authorities (i.e. "whistleblowers"). It is not enough to achieve fight against corruption only on a national level because it is a global problem that needs international interactivity of all countries to address this pressing problem, especially in the area of inter-related criminal organizations. Corruption itself can not be eradicated; however, with the right anti-corruption programs it can be effectively suppressed.

## 6. Conclusion

Corruption is a "historical heritage", the social menace that traditionally manifests in all the societies around the world with a strong intention to interfere all of their components. The structures of society in some highly aware countries show zero tolerance on corruption while in some other countries spectre of corrupt activities became a "code of conduct" i.e. the input matrix to achieve personal gain. Corruption consist of minimally two factors of corrupt activities; first is in the function of the service provider while the second has a function of the service recipient. However, there are very organizationally complex and sophisticated criminal groups, lobbies or organizations engaging corrupt activities in the domain of public or private sector. The Republic of Croatia is also faced with this acute problem of the Croatian society and aware that it is a social phenomenon that has a devastating effect on the rule of law, prevention of equal access for all citizens, affecting public confidence in the state institutions and an obstacle for economic and social development,

particularly in such young democracies as Croatia. Unfortunately, corruption has become a determination and a reality of the entire Croatian society and entrepreneurship environment where the possibility of accepting it as a "modus operandi" conditions the self-existence of the significant part of social and entrepreneurial structures. Corruption is a negative theorem of Croatian national being, which, at different levels, additionally destabilizes already unstable Croatian economic and overall social sector. Therefore corruption activities are evaluated as an obstacle for business operations and the development of entrepreneurship. In such conditions the aims of Croatia as an independent, sovereign state based on the rule of law, especially the Croatian government and its ministries, businesses, groups, institutions and individuals is to act within their legal obligations and real possibilities. Their obligation is that, in the meaning of systematic struggle against corruption, they fearlessly and uncompromisingly confront all forms and levels of corruption. Only such broad national engagement can build a prosperous, affirmative and just society that can achieve the aspirations of the population, as well as of the entrepreneurs, and make them a part of a better, more just and as highly developed society.

## REFERENCES

- Babić, M., Pozaić V. (2008): *Hrvatska na putu razvoja*, Tipotisak, Zagreb
- Budak, J. (2006): *Korupcija u Hrvatskoj: percepcije rasta, problemi ostaju*, Privredna kretanja i ekonomska politika, Vol. 16, No. 106, pp. 66-98.
- Croatian Employers Association – HUP (2016): *HUP priprema prijedlog reforme javne nabave*: <http://www.hup.hr/hup-priprema-prijedlog-reforme-sustava-javne-nabave.aspx>, (accessed February 2016)
- Croatian Ministry of Justice (2015): *Antikorupcija*, <https://pravosudje.gov.hr/antikorupcija-6154/6154>, (accessed April 2015)
- Derenčinović, D. (2001): *Mit(o) korupciji*, NOCCI, Zagreb
- Hodess, R. (2004): *Introduction*, in Hodess, R., Inowlocki, T., Rodriguez, D., Wolfe, T., ed.: *Global Corruption Report 2004*, Transparency International, Pluto Press, London
- Kregar, J. (2008): *Akcija i akteri: što poduzeti sada*, in Hercigonja, J., Kuzmić, M., ed.: *Korupcija-pojavni oblici i mjere za suzbijanje*, Inženjerski biro, Zagreb, pp. 3-32.
- Petričić, D. (2009): *Hrvatska u mreži mafije, kriminala i korupcije*, Argus media, Zagreb
- Puljić Šego, I., Bohutinski, J. (2011): *Rakarova vjetrenjača*, in: *Večernji list* (2011): <http://www.vecernji.hr/hrvatska/javna-je-nabava-u-rh-godinama-leglo-korupcije-i-kriminala-350703>, (accessed April 2015)
- Šimac, N. (2004): *Protiv korupcije: Stara pošast, nove opasnosti*, Udruga za demokratsko društvo, Zagreb – Split
- The Croatian Parliament (2015): *Strategija suzbijanja korupcije za razdoblje od 2015. do 2020. godine*, in *Narodne novine*, 2015, 26: [http://narodne-novine.nn.hr/clanci/sluzbeni/2015\\_03\\_26\\_545.html](http://narodne-novine.nn.hr/clanci/sluzbeni/2015_03_26_545.html), (accessed February 2016)
- Transparency International (2015): *Corruption Perception Index: Data and Methodology*: <http://www.transparency.org/cpi2015#downloads>, (accessed February 2016)
- Transparency International (2015): *Corruption Measurement Tools*: <https://www.transparency.org/country/#HRV>, (accessed February 2016)
- Udruga C-Centar (2012): *Vrste i uzroci korupcije*: <http://mito.ba/index.php/vijesti/sto-je-korupcija/103-vrste-i-uzroci-korupcije>, (accessed March 2015)
- United Nations Office on Drugs and Crime – UNODC (2011): *Korupcija u Hrvatskoj: stvarna korupcijska iskustva građana*, UNODC, Beč

**Julia Peric, Ph.D.**

J.J. Strossmayer University of Osijek  
Faculty of Economics in Osijek  
Gajev trg 7, 31 000 Osijek, Croatia  
E-mail: julia@efos.hr

**Davorka Vidović, Ph.D.**

Faculty of Political Science  
University of Zagreb  
Lepušićeva 6, 10 000 Zagreb, Croatia  
E-mail: dvidovic@fpzg.hr

**THE ROLE OF SOCIAL ACTORS IN THE DEVELOPMENT OF SOCIAL  
ENTREPRENEURSHIP**

**ULOGA DRUŠTVENIH AKTERA NA RAZVOJ DRUŠTVENOG  
PODUZETNIŠTVA**

**ABSTRACT**

*Social entrepreneurs, guided by the idea to change the world, contribute to solving various social problems. The contributions that they create in that process can be identified as reducing unemployment, improving social services, education and improving the quality of life. Sensitive to injustice and powerlessness of a certain group of people, social entrepreneurs want to create positive changes. But, this goal cannot be achieved easily because the biggest challenge before social entrepreneurs is to convince all the other actors of society to understand and support their ideas. Social entrepreneurship, as a hybrid model, focuses on crossing sectoral boundaries and strengthening cross-sectoral collaboration, especially in addressing the complex social needs and environmental concerns. Strengthening cross-sectoral collaboration in local communities creates comprehensive integrated approaches to development and social policies, but also allows the revitalisation of social capital. This paper focuses on eastern Croatia, one of the country's least developed regions, where social entrepreneurship has shown potential for dealing with local issues.*

*The paper is based on the assumption that the lack of networking and partnerships with social entrepreneurs prevents exploitation of existing resources and creation of entrepreneurial environment in which sectors cooperate and complement each other. Good cross-sectoral collaboration leads to innovative and creative solutions aimed at economic and social development. The main goal of the paper is to explore examples of good practice of networking between social entrepreneurs and their key stakeholders (local governments, financial institutions, academia, civil society organizations and the media). The methodological approach is based on qualitative and interpretative paradigm, using in-depth semi-structured interviews as the main method of data collection. Target groups are representatives of key actors from various sectors, and the fieldwork encompasses a convenience sample of 5-10 respondents from different sectors. The study answers whether and what kind of networking practice between social enterprise and other sectors exists, and what are the characteristics of cross-sectoral collaboration in this field. The findings of this pilot research may serve for developing indicators for more comprehensive national study and representative sample. Also, they may serve as a good basis for the development of specific local policies aimed at development of social enterprises. Finally, the study may offer a guidelines for*

*further studies dealing with the influence of social development of regions on the specifics of local cross-sectoral collaborations.*

**Keywords:** *social entrepreneurship, social problems, networking, cross-sectoral collaboration, eastern Croatia*

## SAŽETAK

*Vođeni idejom da promjene svijet, društveni poduzetnici doprinose rješavanju različitih društvenih problema. Doprinosi koje u tom procesu stvaraju mogu se očitovati u smanjenju nezaposlenosti, unapređenju socijalnih usluga, obrazovanju ili unapređenju kvalitete života. Društveni poduzetnici, zbog svoje osjetljivosti na nepravdu prema određenim skupinama ljudi i njihovoj nemoći da riješe problem, žele stvarati pozitivne društvene promjene. No, ostvarenje tog cilja nije jednostavno jer je najveći izazov koji prati društvene poduzetnike uvjeriti sve ostale aktere društva da razumiju i podrže njihove ideje. Društveno poduzetništvo je, kao hibridni model, usmjereno na prelazanje sektorskih granica i jačanje međusektorske suradnje, posebice u zadovoljavanju kompleksnih društvenih potreba i rješavanje ekoloških problema suvremenog svijeta. Jačanjem međusektorske suradnje u lokalnim zajednicama stvaraju se cjeloviti integrirani pristupi razvojnim i socijalnim politikama, ali i omogućuje revitalizacija društvenog kapitala. U fokusu ovog rada bit će istočna Hrvatska, u kojoj je društveno poduzetništvo pokazalo potencijal u rješavanju problema s kojima se ova regija, kao nerazvijenija hrvatska regija, suočava. Ovaj rad se temelji na pretpostavci da nedostatak umrežavanja i partnerstva s društvenim poduzeticima onemogućava iskorištavanje postojećih resursa i kreiranje poduzetne okoline u kojoj se sektori međusobno nadopunjuju i surađuju. Dobra međusektorska suradnja vodi do inovativnih i kreativnih rješenja usmjerenih prema ekonomskom i društvenom razvoju. Osnovni cilj ovog rada je istražiti primjere dobre prakse umrežavanja društvenih poduzetnika i njihovih ključnih dionika (lokalne uprave, financijskih institucija, akademije, civilnog sektora i medija). Metodološki pristup je temeljen na kvalitativnoj i interpretativnoj paradigmi korištenjem dubinskih polu-strukturiranih intervjua kao glavnu metodu prikupljanja podataka. Ciljna skupina su ključni akteri različitih sektora, a istraživanje obuhvaća prigodni uzorak od 5-10 ispitanika iz različitih sektora. Istraživanje odgovara na pitanja postoji li i kakva je suradnja društvenih poduzetnika s akterima iz ostalih sektora i koje su karakteristike međusektorske suradnje u ovom području. Rezultati pilot istraživanja mogu poslužiti za razvoj indikatora za provođenje opsežnijeg istraživanja na nacionalnoj razini i prikupljanje većeg reprezentativnog uzorka. Također, ovo istraživanje može poslužiti kao dobra podloga za razvoj specifičnih lokalnih politika usmjerenih prema razvoju društvenih poduzeća. Na kraju, istraživanje može ponuditi i implikacije za daljnja istraživanja koja tematiziraju utjecaj konteksta društvenog razvoja regija na specifičnosti lokalnih međusektorskih suradnji.*

**Ključne riječi:** *društveno poduzetništvo, društveni problemi, umrežavanje, sektorska suradnja, istočna Hrvatska*

### 1. Social entrepreneurship – from idea to social impact

Successful entrepreneurial process is based on the traditional concept of adding or creating new value. Traditional entrepreneurs strive for profit while social entrepreneurs strive to make a positive social change and long-term social impact. According to the process of creation, a new value starts with an idea and in order for that idea to become a reality entrepreneur needs three key factors – business opportunity, team and resources (Timmons 1999). Therefore, in order to achieve their mission successfully, social entrepreneurs also need to generate ideas, research the market, seek opportunity, build a team, make a business plan and find sources for financing their venture.

Monllor (2007) argues that social opportunity usually turns up when neither market nor state can solve the problems of people in need. Social entrepreneurs who recognize that gap have clear criteria for idea generation, opportunity utilization and achievement of the mission that is almost always based on the same values that they themselves advocate. Networking plays a crucial role in the opportunity utilization process. Having a team of supporters, such as family, clients, partners, associates and employees, as well as a large number of acquaintances, represents a greater guarantee of effective conversion of perceived opportunity into business venture. The larger the network, the better the chance that social entrepreneur will receive the right information at the right time and solve the perceived social problem.

Both traditional and social entrepreneurs are well known for their resourcefulness. Given the nature of their mission, social entrepreneurs, even more than traditional ones, use the principle of bricolage and effectuation strategy to overcome resource constraints (Perić, 2010). The bricolage concept refers to the ability of entrepreneurs to use their existing resources creatively and wisely. Using effectual reasoning, entrepreneurs do not begin their *entrepreneurial journey* thinking about the specific goal, but are rather focused on the given set of means and allow goals to emerge contingently over time (Sarasvathy, 2008). According to Sarasvathy, the emphasis is on creating something new with existing means, rather than discovering new ways to achieve given goals. The author argues that the effectuation strategy is much more successful than other strategies because, even if it carries a higher risk of failure, entrepreneurs that use this approach cope with changes much better and are more successful in exploiting new sources of resources once they become available.

## 2. Social entrepreneurs – where do they come from?

Social entrepreneurs deal with social issues, especially those that threaten the most marginalized groups in society. Although there is a „prejudice“ that social entrepreneurs arise from nonprofit organizations (which is almost true for Croatia), the literature review has shown that they can be found in other sectors as well. (Perić, 2010).

Roper and Cheney (2005) explored socially entrepreneurial venture in private, not-for-profit and public sector. According to them, social entrepreneurs in the private sector have more possibilities to maintain their mission because they are focused on profit and continued innovation, they have greater ability to adapt to changes, accept business trends, organize their own business, follow their dreams and cherish their personal values. Social initiatives in the nonprofit sector usually come out of passion with the specific goal of implementing a positive change. Social entrepreneurs in non-for-profit organizations bring together the energy of all three sectors to combat entrenched economic and social problems in urban communities. Social entrepreneurs can come from the public sector as well. However, it is rather rare, because people working in the public sector have more problems in adjusting to change, implementing innovative solutions and being independent on the one hand, and are facing a high level of political and administrative barriers on the other.

Shaw and Carter (2007) identify social entrepreneurship with the „third Sector“ in which social organizations differentiate themselves according to their structure, their activities and the group of people they serve. Therefore, social organizations can be classified as: (a) profit organizations which use their resources to creatively address social issues, (b) nonprofit organizations which help individuals establish their own small for profit social businesses, and (c) not-for-profit ventures which create economic value to fund their own various programs or create employment and training opportunities for their clients.

Hayden (2008) identifies three typical models of social entrepreneurship: social business, earned income nonprofit and pro bono practice. **Social Business** represents a for-profit business with a

social agenda that holds a higher priority than maximizing profits. Its core product or service line is designed to directly address a social need. They are also called “not just for profit (NJFP)” businesses because they use earned income to finance their good works. **Earned Income Nonprofit** represents a nonprofit organization addressing social problems that derives a substantial portion of its income from products and services it sells to those who can pay, rather than relying solely on grants and donations. Organizations like these and their initiatives are often referred to as “social enterprises”. **Pro Bono Practice** represents a professional services group of one or more lawyers, health practitioners, consultants, or other professionals designed primarily to serve people unable to pay. The group earns its income by charging full fees to other clients, selling additional products and services to those who can pay, or finding sponsors for their work. As argued by the author, all of these models apply business principles and entrepreneurial skills such as spirit, creativity, and drive of motivated individuals to make a positive difference in the world.

According to Blanding (2013), social entrepreneurs come from the so called “*hybrid*” social venture, since they combine the social welfare logic of a nonprofit and the commercial logic of a for-profit business. If successful, according to the author, those organizations can be a creative means of solving real-world problems in self-sustaining ways, harnessing the strengths of both for-profit and nonprofit models.

Charles Leadbeater (1997) also argues that social entrepreneurs can be found in public, private and voluntary sectors. In the public sector, they are managers and employees that find new ways to improve and innovate social services. In the private sector social entrepreneurs come from businesses that show interest to make their community more socially aware. In addition, voluntary sector is the most prolific and innovative source of social entrepreneurship.

As seen, social entrepreneurs can arise from different sectors. However, sustainable social change in local communities cannot be achieved unless all these sectors cooperate.

### 3. **Networking – an essential factor for success**

Social entrepreneurs are quite aware that they alone cannot influence economic and social change. Social entrepreneurs need support, and cross-sectoral collaboration is very important in order for change to happen and social value to be created. However, social entrepreneurs and the final users of their products and/or services are not the only ones benefiting from that cooperation. All other sectors can benefit from working with social entrepreneurs, although most of them are not aware of how much and in which way. Neither governments, businesses, multilateral and bilateral institutions, foundations, philanthropists and academia nor the civil sector have yet caught up with social entrepreneurship as an emerging field, and they too often stand in its way mostly because of their tendency for short-term impact (Hartigan and Billimoria 2005). According to Hartigan and Billimoria (2005), the government has a critical role to play in supporting social entrepreneurs but fails to recognize social entrepreneurship as a legitimate field of endeavor. By supporting social entrepreneurs, governments are helping create the environment through better legislations, elimination of burdensome regulations, arbitrary decision-making and other requirements and practices that hamper social entrepreneurs. Companies can benefit by working with social entrepreneurs from three perspectives. Financially, reaching untapped markets can be greatly facilitated by working with social entrepreneurs who have spent decades designing, implementing and refining innovative ways of bringing previously excluded groups into the marketplace. Increasingly, companies are discovering that consumers expect them to pay some attention to the social effects of their operation. Companies are discovering that they can ‘outsource’ the social innovation element to social entrepreneurs in the same way they have done with product innovation and business entrepreneurs. From a human resources perspective, the ability to attract top talent is a major challenge for companies. However, the best and brightest today are looking for more than impressive salaries and stock options. They want something that gives meaning to their work and

their lives. Supporting social entrepreneurs in different ways shows that companies care about more than the bottom line. The ones that should support the social entrepreneurs the most are different foundations and philanthropists. However, very often, according to the authors, foundations and philanthropists seem content to fund demonstration projects that they hope will produce dramatic results in a very limited time. This cannot create a sustainable social value and innovative solution to social problems. Foundations and philanthropists would benefit much more from this cooperation if they would devote their time and finances to long-term social innovations. Academic sector has an important role in supporting social entrepreneurship by advancing knowledge about it. Developing programs that encourage entrepreneurship and socially responsible behavior of individuals is a great investment in young people and the community in which these young people act.

Therefore, in order to make a positive social impact, social entrepreneurs need a great network of supporters. New Economics Foundation has identified several key elements of support that social entrepreneurs require:<sup>1</sup>

- recognition and status - not merely for the individual's self-gratification, but as a means of leveraging support for their initiatives
- personal financial support - to enable them to pursue their central vision
- peer group support - with other social entrepreneurs to share projects, experiences and ideas
- mentoring - from individuals with practical experience relevant to their immediate and long-term strategic needs
- specific training - particularly in areas such as organization development and finance

As an essential factor for success, networking represents a platform for opportunities, cooperation and access to resources, not just for social entrepreneurs but for everyone involved in their projects. A good collaboration and support creates synergy effects, integrates innovation and builds entrepreneurial mindset throughout the community.

#### **4. Networking between social entrepreneurs and their key stakeholders – The case of Eastern Croatia (Osijek-Baranja County)**

The main intention of the paper is to explore the development of networking between social entrepreneurs and their key stakeholders in the Croatian context and to identify what are the main characteristics of those collaborations. Social entrepreneurship in Croatia is still in its early stages of development (Vidović, 2012; 2013; Rakin et al., 2015; Šimleša et al., 2015) and not all stakeholders recognize the role of social enterprises for socio-economic development yet. Since the majority of social enterprises in Croatia have emerged from the civil society sector (Vidović, 2012; Government of Croatia, 2015), this sector is perceived as a natural environment for social entrepreneurship. An example of such an environment in Croatia is CEDRA, a cluster for eco-social innovation and development.

Apart from the civil society, other sectors seemed poorly involved in cooperation with social enterprises. Therefore, we assumed that most of other stakeholders, primarily (local) governments, academia, private sector and the media, have not developed practices of regular cooperation with social enterprises.

---

<sup>1</sup>Jobs Research Trust, Social Entrepreneurs, Special issue, The Jobs Letter, 2001.

Available at: [http://www.scribd.com/full/8517499?access\\_key=key-11k8apghronb81n29zbv](http://www.scribd.com/full/8517499?access_key=key-11k8apghronb81n29zbv)



Our study was designed as an exploratory study which focuses on the case of Eastern Croatia, more precisely, Osijek-Baranja County. We decided to use a single mezzo local context, where we can study in-depth what kind of networking practices between local social enterprises and local stakeholders exist and what are their characteristics. We have designed the study as a pilot research, whose findings may serve as indicators for a more comprehensive national study on a representative sample. Also, they may serve as a good basis for the development of specific local policies aimed at development of social enterprises. Finally, the study may offer some guidelines for further studies dealing with the influence of social development of regions on the specifics of local cross-sectoral collaborations.

The Osijek-Baranja County was chosen as a locality where social entrepreneurship is already rooted and at least moderately recognized by various stakeholders.

One of the pioneering social enterprises has emerged in this region, namely, the Slap association, with its subsidiary company Modra nit d.o.o. Slap was also the initiator of SEFOR, a national informal network of social enterprises and CEDRA. Furthermore, Slap initiated the YES project (Youth Employment Support Project), financed by the Italian UniCredit Foundation, which involved young men and women from three counties in Eastern Croatia. The project lasted from 2006 to 2010, during which period participants were trained in several vocations, mainly related to eco-agriculture and ethno crafts. The project has also provided some microcredits for starting up agricultural production.

Osijek-Baranja County was also the location where the pilot project Good.bee by ERSTE Group took place in 2012. The main idea was to help create financial instruments tailored for the needs of social enterprises. However, the project has only provided modest support for self-employment of few early-stage social entrepreneurs or social entrepreneurial ideas in Osijek-Baranja County. However, this has so far remained one of the rare initiatives coming from the financial sector in the field of social entrepreneurship in Croatia.

#### **4.1. Methodological approach**

The methodological approach was based on the qualitative and interpretative paradigm, using in-depth semi-structured interviews as the main method of data collection. Target groups were representatives of key organizations and/or institutions from various sectors. The fieldwork encompassed a convenience sample of 5-10 interviewees coming from different sectors who are at least indirectly involved with social enterprises.

The interviews were conducted during a two-week period, between April 11 and April 22, 2016. All interviews were conducted either by one or by both researchers (authors) as face-to-face interviews and lasted between 45 minutes and hour and a half.

In total, eight interviews were conducted and they included representatives from social enterprises (Association NEOS, Zlatna Greda d.o.o.), civil society organizations (PRONI), local government (City of Osijek), educational institutions (Faculty of Economics, Faculty of Humanities), intermediary and/or support organizations (Business incubator – BIOS), and the media (Glas Slavonije).

The interview protocol was semi-structured and it covered several main, broadly defined areas related to the research question: awareness and specific knowledge of social entrepreneurship; perception and attitude towards social enterprises; experience and practice of cooperation/networking around social enterprises and/or social entrepreneurship projects; identification of the factors needed for better cooperation and networking in local communities.

There were no specific ethical issues related to this study. However, all participants were informed on the research objectives and purpose and their rights on anonymous and voluntary participation. All respondents have accepted participation and none of them left the interview before the end.

## 4.2. Findings

### *How aware and knowledgeable were stakeholders about social entrepreneurship?*

In general, there is still a lack of understanding of social entrepreneurship and social enterprises among key actors in this study. Social entrepreneurship is often seen very narrowly – mostly as a type of employment of vulnerable or hard-to-employ individuals and groups. Majority of the respondents saw social enterprises closely connected to civil society organizations, and understood it as one of the activities of such organisations.

Among stakeholders, the most knowledgeable were the representatives of civil society organizations, which was in line with our assumptions. Civil society organizations were often involved in social entrepreneurship themselves (by having initiated own social enterprise or social entrepreneurship project), or only familiar with other social enterprises.

Among most the recognizable actors in the social enterprise sector in this local community is the Slap association, which was already mentioned in the introductory paragraph. Some of the stakeholders were not able to recognize any of other social enterprises.

### *What do stakeholders think about social entrepreneurship?*

Overall, stakeholders in this study did not perceive social entrepreneurship as a particularly growing or competitive sector. Some of them have expressed the concern that social entrepreneurship may never enter the high-tech or IT sectors. Social services for the poor and vulnerable were mainly seen as the primary fields for social entrepreneurship. This is closely linked to the perception that social entrepreneurship may only generate a low level of profit and that it is highly uncompetitive in the market.

The majority of stakeholders, including the representatives of social enterprises, perceived that the social enterprise sector is seriously lacking human capacities, namely, the skills necessary for managing entrepreneurial activities – financial management, marketing, and others. Social entrepreneurs are mostly highly socially sensitive individuals who can easily recognize unaddressed social needs in the community. However, they usually lack strong economic/entrepreneurial background to sustainably manage their projects.

### *What are experiences of cooperation and/or networking related to social enterprises and/or social entrepreneurship projects?*

In general, there is a lack of cooperation and networking among social enterprises and other sectors. Mostly, social enterprises collaborate with civil society organizations through training and education or sharing/renting spaces and/or facilities. Research has identified a lack of awareness of mutual benefits that may arise from cooperation or networking with stakeholders from other sectors. Often, such cooperation is non-existent because “*There was no initiative*” – a sentence repeatedly heard through interviews. Other stakeholders mostly expect that social enterprises should be the actors that initiate such a connection, asking for partnership or cooperation. However, social enterprises also expect others to initiate the cooperation.

Due to their mission, the studied social enterprises have had more structured cooperation with the support organizations (Business incubator) and the Croatian Employment Service, usually within

projects for the employment of vulnerable social group. Therefore, it is not a surprise that employment is the area where the role of social enterprises is mostly visible and recognized.

Cooperation with local authorities is perceived as somewhat less continuous and stimulating. Greater inclusion of social enterprises in public procurement procedures is seen as significantly missing. A lack of competitive capacity is the reason why social enterprises rarely fulfil requirements of the public procurement tenders, and therefore added social value should be incorporated as a crucial requirement, in addition to cost. There are some experiences that local governments tend to provide small grant support for some social entrepreneurship projects, but that kind of support is more *ad hoc* than systematic and institutionalized.

Cooperation with the private sector is sporadic and perceived as unsatisfactory. Social enterprises feel they are not seen as an equal partner (“*They are trying to take advantage of us*”) and that they are not capable to act competitively in the market, but also that others do not understand that what they are doing is not “*just entrepreneurship*”.

*What is needed for better cooperation and networking in local communities?*

From the answers given by the respondents, it may be observed that academia, mainly educational institutions, are among stakeholders that are rarely involved in social entrepreneurship projects in local communities. At the same time, this sector is recognized as the one that is needed the most for creating a more sustainable social enterprise sector. This is particularly the case for creating educational programs on social entrepreneurship, but also a variety of trainings for (future) social entrepreneurs. Also, media are seen as enormously important for raising awareness among the broader public, by telling good stories on social enterprises. Still, this actor is insufficiently incorporated in networks around social entrepreneurship.

Supportive, intermediary organizations are sporadically present in the projects of social enterprises, but it is perceived that their capacities are insufficient. Often, they do not understand the specificities of social enterprises and are still much lacking services tailored to fit a social enterprise’s needs.

## **5. Conclusions and implications for further research**

The aim of our small-scale study is to provide useful insights into practices of cooperation and networking around social enterprises and other stakeholders in local community. We chose the Osijek-Baranja County in Eastern Croatia, as a locality with existing social entrepreneurship where multiple actors and projects have been active for more than a decade.

Of course, based on a single location and (only) several respondents, the findings can hardly be generalized; but that was not our intention. However, at the mezzo level they can reveal the dynamic of collaboration between social enterprises and local stakeholders. Findings offer deeper understanding on whether and how stakeholders cooperate, what are the main characteristics of such cooperation and what obstacles can be identified.

Overall, the case analysed in this study has shown that cooperation between social enterprises and their stakeholders in the local community is poor and unsatisfactory. There is a strong impression that all the parties involved are in a state of “waiting” - for initiative to come from someone else, for a call that will offer them something, or for recognition and acknowledgment.

Lack of knowledge and deeper understanding of what social entrepreneurship really is, is still a key barrier to creating better conditions for social entrepreneurship. Furthermore, a missing platform or umbrella organization to provide data and information on social enterprises and their needs may serve as a starting point for filling the gap in recognition. Even though sporadic cooperation may

occur, those experienced so far have been mostly two-sided. Multi-sectoral cooperation, where real networking can be built, almost does not exist. This should be encouraged by more multi-sectoral events in local community.

Further research may broaden this study on other localities and provide comparative data. Deeper and comparative analysis may offer some valuable ideas that can be used for policy recommendations on how to encourage development of networking practice around social entrepreneurship.

## REFERENCES

Blanding, M. (2013): *Entrepreneurs And The 'Hybrid' Organization*, Forbes <http://www.forbes.com/sites/hbsworkingknowledge/2013/08/12/entrepreneurs-and-the-hybrid-organization/#25245b6076ca> (accessed 01 April 2016)

Government of the Republic of Croatia (2015): *Strategy for Social Entrepreneurship Development in the Republic of Croatia 2015-2020*, <https://vlada.gov.hr/UserDocsImages/Sjednice/2015/226%20sjednica%20Vlade/226%20-%207.pdf> (accessed 25 March 2016)

Hayden, C.J. (2005): *If You Can't make a Living, How Can You Make a Difference* <http://www.getclientsnow.com/jan2005.htm> (accessed 25 March 2016)

Hartigan P., Billimoria, J. (2005): *Social Entrepreneurship: an overview, Alliance, Vol.10, No.1*, <http://www.alliancemagazine.org/feature/social-entrepreneurship-an-overview> (accessed 01 April 2016)

Jobs Research Trust (2001): *Social Entrepreneurs*, Special issue, The Jobs Letter, 2001. [http://www.scribd.com/full/8517499?access\\_key=key-11k8apghronb81n29zvb](http://www.scribd.com/full/8517499?access_key=key-11k8apghronb81n29zvb) (28 March 2016)

Leadbeater, C. (1997): *The Rise of the Social Entrepreneur*, Demos, London, 1997.

Monllor, J. (2010): *Social Entrepreneurship: A study on the source and discovery of social opportunities*, Palgrave Macmillan Publishers Limited

Oberman Peterka, S. et al. (2004) *Prvi korak u poduzetništvo, Osječka poduzetnička bilježnica* Centre for Entrepreneurship Osijek, Business incubator Osijek, Osijek,

Perić, J. (2010): *Izgradnja društvene odgovornosti sveučilišta kroz studentsko volontiranje kao oblik socijalnog poduzetništva*, PhD thesis, Faculty of Economics in Osijek, Osijek

Regional Cooperation Council (2014): *Strategic Study on Social Economy Development in the Context of the South East Europe 2020 Strategy*, Beograd: European Movement in Serbia (authors: Vidović, D., Rakin, D., Hoxha, J., Šarić, Dž., Petričević, T., Tafarshiku, A., Gjuravska, M., Janković, A., Babović, M.)

Robert J., and Cheney G. (2005): *Leadership, learning and human resources management: The meaning of social entrepreneurship today*, Emerald Group Publishing Limited, ISSN 1472-0701, Vol.5 No. 3.

Sarasvathy, S. (2008): *Effectuation, Elements of Entrepreneurial Expertise*, Library Of Congress Cataloguing in Publication Data.

Shaw E., Carter, S. (2007): *Social Entrepreneurship: Theoretical Antecedents and Empirical Analysis of Entrepreneurial Processes and Outcomes*, Journal of Small Business and Enterprise Development, Vol.14, No. 3.

Šimleša, D., Puđak, J., Majetić, F. and A. Bušljeta-Tonković (2015): *Mapping New Horizons – report on the state of social entrepreneurship in Croatia 2015*, Zagreb: Institute of Social Sciences “Ivo Pilar”

Vidović D. (2013): *Social entrepreneurship in Croatia: a framework for development*, Euricse Working Paper 61|13. Available at: [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2367388](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2367388)

Vidović, D. (2012): *Socijalno poduzetništvo u Hrvatskoj*, PhD Thesis, Zagreb: Faculty of Humanities and Social Sciences, University of Zagreb

**Kristina Petljak, Ph.D., Assistant professor**

University of Zagreb  
Faculty of Economics and Business Zagreb  
Department of Trade  
Trg J. F. Kennedy 6  
10 000 Zagreb  
Phone: 00385 (0) 1 2383 384  
Fax: 00385 (0) 1 2335 633  
E-mail address: kpetljak@efzg.hr

**Ivana Štulec, Ph.D., Assistant professor**

University of Zagreb  
Faculty of Economics and Business Zagreb  
Department of Trade  
Trg J. F. Kennedy 6  
10 000 Zagreb  
Phone: 00385 (0) 1 2383 384  
Fax: 00385 (0) 1 2335 633  
E-mail address: istulec@efzg.hr

**Željka Gorički, M.A., Sales assistant, Zara Home**

Zara Croatia LLC  
Avenija Dubrovnik 16  
10 000 Zagreb  
Phone: 00385 (0) 1 6396 111  
Fax: 00385 (0) 1 6396 100  
E-mail address: goricki.zeljka@gmail.com

**INSIGHTS INTO BEHAVIOUR AND PREFERENCES OF YOUNG PARENTS AS BUYERS OF ORGANIC PRODUCTS FOR BABIES**

**PONAŠANJE I PREFERENCIJE MLADIH RODITELJA KAO KUPACA EKOLOŠKIH PROIZVODA ZA BEBE**

**ABSTRACT**

*Consumer interest in organic food has grown tremendously in many countries during last fifteen years, including Croatia. The reason for this growth is, among others, the increasing concern for health and the environment for future generations. There is an increasing change in the food consumption, especially among young parents. Partly, this can be explained by the changing life-roles, as well as the fact that retailers are broadening the offer of organic category as a way of communicating their corporate social responsibility (CSR). Young parents are especially careful when buying products for their babies. An empirical study on the convenient sample of young parents is conducted, with aim of identifying behaviour and preferences of young parents as organic food products buyers.*

**Key words:** *corporate social responsibility, young parents, organic baby products, purchase behaviour, Croatia.*

## SAŽETAK

*Tijekom posljednjih petnaestak godina, zanimanje potrošača za ekološke proizvode značajno je porasla u mnogim europskim zemljama, uključujući i Hrvatsku. Razlog za ovaj rast je, među ostalima, sve veća zabrinutost potrošača za zdravlje i okoliš za buduće generacije. S obzirom na navedeno, zamijećena je promjena u potrošnji hrane, posebice među mladim roditeljima. Navedena promjena djelomično se može objasniti promjenom životnih uloga, kao i činjenicom da trgovci kako bi komunicirali svoje društveno odgovorno poslovanje, proširuju ponudu kategorije ekoloških proizvoda. Mladi roditelji su posebno oprezni kada kupuju proizvode za bebe. Provedeno je i empirijsko istraživanje na uzorku mladih roditelja, s ciljem prepoznavanja kupovnog ponašanja i preferencija mladih roditelja kao kupaca ekoloških prehrambenih proizvoda za djecu..*

**Ključne riječi:** društveno odgovorno poslovanje, mladi roditelji, ekološki proizvodi za bebe, kupovno ponašanje, Hrvatska.

### 1. Introduction

Organic agriculture was defined by the International Federation of Organic Agriculture Movements (IFOAM) as 'a production system that sustains the health of soils, ecosystems and people. It is a production system which relies on ecological processes, biodiversity and natural cycles adapted to local conditions, rather than the use of inputs with adverse effects. Organic agriculture combines tradition, innovation and science to benefit the shared environment and promote fair relationships and a good quality of life for all involved' (IFOAM, 2005). In the Republic of Croatia, the legal framework for the regulation and development of organic agriculture is represented by the *Act on the Organic Production and Agricultural Products and Foodstuffs* (OG 12/01, 14/01, 79/07) which was passed in 2001. An organic product is every agricultural product and foodstuff which is produced and labelled in accordance with the *Act on the Organic Production and Agricultural Products and Foodstuffs* and the regulations based on it. The right to sale and label the product as organic have only market participants who produce and process organic products in accordance with aforementioned regulations, their production is systematically supervised, they possess organic food certificate and as such, they are enrolled in a *Register of Organic Producers* in Croatia.

The development of organic production has also led to the development of the organic food market (Brčić-Stipčević and Petljak, 2011). While the organic food market is underdeveloped when compared to the other countries in the European union, the number of organic farms and the surface under organic agriculture is constantly growing. According to the latest available data from Ministry of Agriculture, in 2003 Croatia had 130 organic producers, while in 2014, the number reached 2,194 and continues to grow (Ministry of Agriculture, 2016). Croatian consumers are becoming more concerned about their nutrition and health, which is especially seen in the younger population (especially young parents with children).

The paper is structured as follows. After short description of characteristics of organic food market in Croatia, literature overview is explained with focus on the previous research in the areas of organic food buying, with special focus on young parents' perspective. In next section we present the results of the quantitative research study conducted on the young parents about their behaviour and preferences as buyers of organic products for babies. After discussing the explorative research results, we draw some concluding results, together with limitations of our study and suggestions for further research in the domain of young parents buying behaviour, *green parenting* respectively.

### 2. Young parents buying behaviour

Numerous foreign and domestic authors research organic food consumer behaviour. In the last decade only, there have been a number of studies providing insight into organic food consumption

and determinants of organic food consumption in Europe (Grubor and Djokic, 2016; Aertsens et al., 2009; Tarkiainen and Sundqvist, 2005; Magnusson et al., 2001) and wider (Xie et al., 2015; Onyango, Hallman and Bellows, 2007; Lea and Worsley, 2005), with the aim of understanding the conditions under which organic consumers make their purchase decisions. The research focus was predominantly on the consumer purchase behaviour regarding organic food (Paul and Rana, 2012; Żakowska-Biemans, 2011) and their motivation for not buying organic food (Padel and Foster, 2005). Baby products were, to best of the authors' knowledge not so much in the focus, which comes as a surprise with the respect to the importance of the baby products. Rieffer and Hamm (2011) researched organic food consumption in families with juvenile children.

Key moments in the life of a family that can be used to acquire or retain customers represent a new, particularly emotional events in the life of the family, because based on these events the family recognizes the need and purchase specific products. Those products influence on the new lifestyle development, which creates a need for new products and/or services and specific information. These life-changing moments are pregnancy, child birth, first birthday, leaving the child in the nursery and the like. Mothers especially, have special needs during pregnancy when they are already preparing for the birth of the child, during the first days of the child, and when the time comes to return to work after maternity leave. The organic products are increasingly gaining in importance to parents, most in the first years of a child's life, because of the sensitivity of the baby to stimuli from the environment, which can create a variety of health problems such as food allergies, diaper rash due to inadequate and harmful cosmetics, as well as diapers, etc.

In the process of deciding upon which product to buy, many mothers opt for organic baby products because they want the best and most natural products for their babies. Among organic baby products are a variety of pacifiers made of natural materials, organic grown foods, glass bottles for milk, cloth diapers, toys and clothes made of natural materials (eg, bamboo, organic cotton) and the like.

### **3. Research of young parents as buyers of organic products for babies**

Primary research was conducted in July and August 2015 on the convenient sample of young parents and research instrument was questionnaire which was posted online. The questionnaire (Appendix) consisted of 21 questions related to: (1) *knowledge about organic food*, (2) *consumer behaviour* and (3) *sociodemographic characteristics of respondents*. Respondents' perception on organic products and purchase behaviour was examined by using the Likert scale, which measures respondents' agreement with certain statements, where 1 represented *complete disagreement* and 5 *complete agreement* with the statement.

The research assumption was that young parents who have greater purchasing power, higher education and higher awareness of environmental protection, care for animals and the health of their families are accordingly frequent buyers of organic baby products. In addition, based on the literature review, we assumed that the main reasons for choosing organic food are health of child, preservation of environment for future generations and animal welfare, regardless of the price premium of organic food products.

#### **3.1. Research sample**

In research participated young parents who live in the Republic of Croatia, of which, majority of them is from City of Zagreb and Zagreb County. The reason for the selection of young parents in the sample is because it is more likely that young parents have a child younger than 3 years than it is with the older population. Most respondents aged between 25 and 34 years, which was expected because nowadays young people are less likely to opt for the child before the age of thirty. The sample includes 168 parents, from which 148 mothers and 20 fathers. The majority of the mothers



are shopping for the whole family, which justifies relatively small number of fathers who participated in this survey. **Table 1.** shows the sociodemographics of research participants – (1) gender, (2) age, (3) education level, (4) marital status, (5) employment status, (6) number of household members, (7) number of children, (8) place of residence, (9) children's age, (10) personal monthly income, (11) monthly household income, (12) place of residence, (13) employment status, (14) number of household members and (15) number of children.

**Table 1** Sociodemographics of research participants

<b>gender</b>			<b>age</b>		
	<b>n</b>	<b>%</b>		<b>n</b>	<b>%</b>
male	20	11.7	from 18 to 24 years	8	4.7
female	151	88.3	from 25 to 34 years	119	69.6
			more than 34 years	43	25.6
<b>education level</b>			<b>employment status</b>		
elementary school	1	0.6	full-time employment	97	56.7
high school (3 years)	12	7.0	temporary employment	15	8.8
high school (4 years)	46	26.9	part-time employment	13	7.6
college or higher education	95	55.6	not-registered	3	1.8
postgraduate education	17	9.9	self-employment	8	4.7
			unemployed	35	20.5
<b>marital status</b>			<b>number of household members</b>		
cohabitation	38	22.2	2 members	16	9.4
married	118	69.0	3 members	94	55.0
divorced	10	5.8	4 members	47	27.5
single	5	2.9	5 and more members	14	8.2
<b>number of children</b>			<b>children's age</b>		
one child	114	66.7	up to three months	18	10.5
two children	48	28.1	from 3 to 6 months	20	11.7
three children	9	5.3	from 6 to 12 months	31	18.1
more than three children	114	66.7	from 1 to 3 years	61	35.7
			older than 3 years	41	24.0
<b>personal monthly income</b>			<b>monthly household income</b>		
less than 1,200 HRK	5	2.9	less than 1,800 HRK	7	4.1
1,201-2,000 HRK	19	11.1	1,801-3,500 HRK	11	6.4
2,001-3,500 HRK	23	13.5	3,501-5,500 HRK	24	14.0
3,501-5,500 HRK	48	28.1	5,501-8,000 HRK	35	20.5
5,501-7,000 HRK	40	23.4	8,001-11,000 HRK	43	25.1
7,001-9,000 HRK	11	6.4	more than 11,000 HRK	51	29.8
more than 9,000 HRK	13	7.6	no answer	7	4.1
no personal monthly income	12	7.0			
<b>place of residence</b>					
City of Zagreb	106	62.0			
Zagreb County	21	12.3			
Northern Croatia	12	7.0			
Slavonia	7	4.1			
Lika, Kordun and Banovina	1	0.6			
Istra, Primorje and Gorski kotar	10	5.8			
Dalmatia	14	8.2			

Source: primary research

### 3.2. Research results

The majority of respondents buys organic food for babies often (43.3%) or rarely (38.0%), while 18.7% of respondents state they never buy organic products for babies. Organic products which are mostly purchased are: food (75.7%) and ready-made food (48.5%). This categories are followed by

toiletries and organic cotton clothing. At least, research respondents buy shoes, baby formula milk and diapers. From food products, majority of respondents prefer fresh fruits and vegetables from family farm (OPG) and Hipp (47.4%), while respondents less buy one of the most expensive organic baby food *Holle*. **Table 2.** indicates place of organic baby products purchase, frequency of organic baby products purchase and young parents available monthly income for organic baby products.

As seen from the **Table 2.**, majority of the respondents (67.9%) buys food in specialised food shops which in the Croatian market have much broader range of organic baby products (food and non-food) than traditional retail chains. Although in most supermarkets one can find fresh fruits and vegetables from organic farming, parents still prefer to buy fruits and vegetables from family farms and open markets. Regarding the frequency of purchase of organic food baby products, most respondents buy it few times a month (50.4%) or several times a week (29.2%), and the smaller percentage of respondents buy it every day (8.8%). Of the total purchase for the baby, most respondents claim that up to 11-30% of the purchase is purchase of organic products, while a quarter of respondents buys more than 50% of organic products for baby. It is interesting to note from the research results analysis that majority of respondents gives up to 500 HRK monthly for organic products for baby, while the lowest percentage of respondents gives more than 1,500 HRK monthly. Considering the fact that the price of organic products is higher when compared to products from conventional production, this research results indicate that available income for organic baby category is not high, and consequently it indicates state of development of organic market in Croatia, when compared to other organic conscious countries in Europe.

**Table 2** Characteristics of place, frequency and available monthly income for organic baby products

	n	%
<i>place of purchase</i>		
supermarkets	7	4.1
specialised children stores (Baby center, Magic baby)	3	1.8
drugstores (dm, Müller, Bipa)	93	54.4
internet	2	1.2
family farm	18	10.5
open market	16	9.4
<i>frequency of purchase</i>		
every day	13	7.6
several times a week	41	24.0
several times a month	69	40.4
very rarely	16	9.4
<i>percentage of the total purchase products for baby that relates to the purchase of organic products</i>		
less than 10%	15	8.8
11 to 30%	44	25.7
31 to 50%	38	22.2
51 to 70%	33	19.3
more than 71%	9	5.3
<i>average monthly expenditure for organic products for babies</i>		
less than 200 HRK	41	24.0
from 201 to 500 HRK	52	30.4
from 501 to 1 500 HRK	37	21.6
more than 1 501 HRK	9	5.3
<b>TOTAL</b>	<b>139</b>	<b>100.0</b>

Source: primary research

Research results show that the majority of the respondents do not buy organic baby products due to the higher price of this products, but also because they do not have adequate information about these products. Furthermore, other mentioned reasons for not buying organic baby products are unavailability (distribution issue) and insufficient offer of these products. Similar results regarding the high price of organic food is familiar within previous research of *Krystallis and Chryssohoidis (2005)*.

Perceptions of young parents on statements regarding organic baby products were examined by using Likert scale, which measures respondents' agreement with certain statements, where 1 represented *complete disagreement* and 5 *complete agreement* with the statement. Research results indicate the higher agreement with the statements 'I am familiar with brands of organic and non-food products for babies'; 'I buy organic products for babies because they are safer for consumption than conventional products'. **Table 3** shows descriptive indicators of perceptions of young parents on organic baby products.

**Table 3** Perceptions of young parents on organic baby products

statement	strongly disagree	disagree	neither agree or disagree	agree	strongly agree	$\bar{x}$	sd
	n (%)	n (%)	n (%)	n (%)	n (%)		
S1_I give much attention to health and quality lifestyle.	1 (0.6)	4 (2.3)	35 (20.5)	49 (28.7)	50 (29.2)	4.03	0.892
S2_It is important to me that baby products I buy are manufactured without the use of fertilizers, pesticides and other chemical products.	1 (0.6)	5 (2.9)	18 (10.5)	43 (25.1)	72 (42.1)	4.29	0.880
S3_I plan in advance purchase of organic products for babies.	6 (3.5)	28 (16.4)	26 (15.2)	43 (25.1)	36 (21.1)	3.54	1.199
S4_While buying organic products for babies, I look carefully at country of origin.	10 (5.8)	13 (7.6)	40 (23.4)	37 (21.6)	39 (22.8)	3.59	1.197
S5_For me, the quality of organic products for babies is very important.	2 (1.2)	7 (4.1)	23 (13.5)	64 (37.4)	43 (25.1)	4.00	0.901
S6_I buy organic products for babies due to the previous bad experience with conventional products.	1 (0.6)	5 (2.9)	17 (9.9)	47 (27.5)	69 (40.4)	4.28	0.868
S7_I buy organic products for babies because I care about the health of my baby.	24 (14.0)	37 (21.6)	38 (22.2)	24 (14.0)	16 (9.4)	2.79	1.248
S8_I am familiar with brands of organic food and nonfood products for babies.	1 (0.6)	2 (1.2)	15 (8.8)	38 (22.2)	83 (48.5)	4.44	0.800
S9_I buy organic products for babies due to the concern for environment.	3 (1.8)	6 (3.5)	39 (22.8)	56 (32.7)	35 (20.5)	3.82	0.934
S10_I buy organic products for babies because they are environmentally friendly.	11 (6.4)	25 (14.6)	44 (25.7)	41 (24.0)	18 (10.5)	3.22	1.128
S11_I buy organic products for babies because I want to offer to my child the healthiest food.	8 (4.7)	25 (14.6)	48 (28.1)	38 (22.2)	20 (11.7)	3.27	1.094
S12_I buy organic products for babies because they are safer for consumption than conventional products.	1 (0.6)	3 (1.8)	11 (6.4)	49 (28.7)	75 (49.3)	4.40	0.786
S13_I buy organic products for babies because they are more quality than conventional foods.	5 (2.9)	6 (3.5)	36 (21.1)	41 (24.0)	51 (29.8)	3.91	1.060
S14_I consider garments made with organic cotton the best for sensitive baby skin.	3 (1.8)	4 (2.3)	27 (15.8)	57 (33.3)	48 (28.1)	4.03	0.924
S15_While buying organic products for babies, kindness and professionalism of the sales staff are very important for me.	7 (4.1)	8 (4.7)	41 (24.0)	38 (22.2)	45 (26.3)	3.76	1.120
S16_Price of organic products is acceptable to me.	17 (9.9)	27 (15.8)	46 (26.9)	31 (18.1)	18 (10.5)	3.04	1.197
S17_Organic products have higher price in comparison to conventional products.	15 (8.8)	42 (24.6)	56 (32.7)	18 (10.5)	8 (4.7)	2.73	1.013
S18_The offer of organic products for babies is satisfactory.	1 (0.6)	4 (2.3)	25 (14.6)	52 (30.4)	57 (33.3)	4.15	0.867
S19_I regularly follow promotional messages relating to organic products for babies.	5 (2.9)	36 (21.1)	63 (36.8)	31 (18.1)	4 (2.3)	2.95	0.862
S20_About organic products for babies I learn mostly from friends who are also parents.	21 (12.3)	38 (22.2)	37 (21.6)	32 (18.7)	11 (6.4)	2.81	1.183
S21_I am ready to pay higher price of organic products for babies.	16 (9.4)	27 (15.8)	46 (26.9)	37 (21.6)	13 (7.6)	3.03	1.142

Source: primary research

### 3.3. Limitations and recommendations for future research

Analysis of research results indicate that majority of parents nowadays knows and understands the benefits of health care in general, and they are trying to improve their life and lives of their children by changing the attitude towards the environment and animals. Most respondents strongly believe that conventional food production is harmful to the environment, their health, and therefore the health of their children, whose body misses more than 60 % of inputs through preparations for the care, but also through diet. Research results of this study are in line with previous studies that have shown that consumers with higher incomes and higher education have a higher sensitivity and are more concerned for the environment, treatment of animals and the health of their families. For some consumers, it represents a way of life, for example, married consumers, regardless of age, as well as consumers with a total household income of more than 11 000 HRK and college or university graduates show a greater intention to purchase of these products in relation to other categories of respondents.

### 4. Conclusion

Organic agriculture and processing of organic food greatly differs from conventional food production. The main difference lies in the growing need for labor and obligations to respect the legislation related to organic production. The importance of organic food is reflected in the way of cultivation that ensures the preservation of the environment and residues of pesticides, hormones and antibiotics in food are avoided. There are many reasons why pesticides from food are undesirable especially for children: small children are more sensitive to developmental damage caused by pesticide residues, are under rapid growth and metabolism, bring large amounts of food per kilogram of body weight. The consumption of organic food especially makes sense in infants (up to one year), due to the fact that during this period the immune system is particularly vulnerable. Organic products for babies are increasingly popular among young parents, although some parents are still not informed about the advantages and benefits of these products for the human health, as well as the health of entire natural system. The market of organic food products recorded an upward trend from year to year, and the best indicator of this growth is the consumption of organic food products per capita.

Research results conducted on the convenient sample of young parents indicate that the main preoccupation for respondents is own health, as well as health of their families. The majority of the respondents' states that they buy organic food for their babies often or sometimes, they are willing to pay price premium in order to provide their child with the healthiest and best options. The most commonly purchased baby food category is fruits and vegetables from family farms, diapers and cosmetics in specialized stores such as dm-drogerie markt and Bio&Bio. Respondents who do not buy organic food consider that this kind of food is too expensive, they do not have enough information regarding the products or that such products are equal in quality to conventional. One of the reasons why some parents do not buy organic food products must have access to these products. Better information on customers' requirements for organic production and obtaining organic products certainly contributed to a different perception of prices of organic products.

### REFERENCES

- Aertsens, J., Verbeke, W., Mondelaers, K., Huylenbroeck, G.V. (2009): *Personal determinants of organic food consumption: a review*, British Food Journal, Vol. 111, No. 10, pp. 1140–1167.
- Brčić-Stipčević, V., Petljak, K. (2011): *Research on organic food purchase in Croatia*, Tržište, Vol. 23, No. 2, pp. 189–207.

Grubor, A., Djokic, N. (2016): *Organic food consumer profile in the Republic of Serbia*, British Food Journal, Vol. 118, No. 1, pp. 164–182.

IFOAM (2005): *Definition of Organic Agriculture*, <http://www.ifoam.bio/en/organic-landmarks/definition-organic-agriculture>, (accessed 4 April 2016)

Krystallis, A., Chrysosoidis, G. (2005): *Consumers' willingness to pay for organic food*, British Food Journal, Vol. 107, No. 5, pp. 320–343.

Lea, E., Worsley, T. (2005): *Australians' organic food beliefs, demographics and values*, British Food Journal, Vol. 107, No. 11, pp. 855–869.

Magnusson, M.K., Arvola, A., Koivisto Hursti, U.-K., Åberg, L., Sjöden, P.O. (2001): *Attitudes towards organic foods among Swedish consumers*, British Food Journal, Vol. 103, No. 3, pp. 209–227.

Ministry of Agriculture (2016): *Organic Agriculture*, <http://www.mps.hr/default.aspx?id=6184>, (accessed 4 April 2016)

Onyango, B.M., Hallman, W.K., Bellows, A.C., (2007): *Purchasing organic food in US food systems*, British Food Journal, Vol. 109, No. 5, pp. 399–411.

Padel, S., Foster, C. (2005): *Exploring the gap between attitudes and behaviour: Understanding why consumers buy or do not buy organic food*, British Food Journal, Vol. 107, No. 8, pp. 606–625.

Paul, J., Rana, J. (2012): *Consumer behavior and purchase intention for organic food*, Journal of Consumer Marketing, Vol. 29, No. 6, pp. 412–422.

Tarkiainen, A., Sundqvist, S. (2005): *Subjective norms, attitudes and intentions of Finnish consumers in buying organic food*, British Food Journal, Vol. 107, No. 11, str. 808–822.

Teng, C-C, Wang, Y-M (2015): *Decisional factors driving organic food consumption*, British Food Journal, Vol. 117, No. 3, pp. 1066–1081.

von Meyer-Höfer, M., Nitzko, S., Spiller, A. (2015): *Is there an expectation gap? Consumers' expectations towards organic: An exploratory survey in mature and emerging European organic food markets*, British Food Journal, Vol. 117, No. 5, pp. 1527–1546.

Xie, B., Wang, L., Yang, H., Wang, Y., Zhang, M. (2015): *Consumer perceptions and attitudes of organic food products in Eastern China*, British Food Journal, Vol. 117, No. 3, pp. 1105–1121.

## Appendix.

<b>Gender</b>	<i>male</i>
	<i>female</i>
<b>Age</b>	<i>from 18 to 24 years</i>
	<i>from 25 to 34 years</i>
	<i>more than 34 years</i>
<b>Education level</b>	<i>elementary school</i>
	<i>high school (3 years)</i>
	<i>high school (4 years)</i>
	<i>college or higher education</i>
<b>Marital status</b>	<i>cohabitation</i>
	<i>married</i>
	<i>divorced</i>
	<i>single</i>
<b>Employment status</b>	<i>full-time employment</i>
	<i>temporary employment</i>
	<i>part-time employment</i>
	<i>not-registered</i>
	<i>self-employment</i>
	<i>unemployed</i>
<b>Number of household members</b>	<i>2 members</i>
	<i>3 members</i>
	<i>4 members</i>
	<i>5 and more members</i>
<b>Number of children</b>	<i>one child</i>
	<i>two children</i>
	<i>three children</i>
	<i>more than three children</i>
<b>Children's age</b>	<i>up to three months</i>
	<i>from 3 to 6 months</i>
	<i>from 6 to 12 months</i>
	<i>from 1 to 3 years</i>
	<i>older than 3 years</i>
<b>Personal monthly income</b>	<i>less than 1,200 HRK</i>
	<i>1,201-2,000 HRK</i>
	<i>2,001-3,500 HRK</i>
	<i>3,501-5,500 HRK</i>
	<i>5,501-7,000 HRK</i>
	<i>7,001-9 000 HRK</i>
	<i>more than 9,000 HRK</i>
	<i>no personal monthly income</i>
<b>Monthly household income</b>	<i>less than 1,800 HRK</i>
	<i>1,801-3,500 HRK</i>
	<i>3,501-5,500 HRK</i>
	<i>5,501-8,000 HRK</i>
	<i>8,001-11,000 HRK</i>
	<i>more than 11,000 HRK</i>
	<i>no answer</i>
<b>Place of residence</b>	<i>City of Zagreb</i>
	<i>Zagreb County</i>
	<i>Northern Croatia</i>
	<i>Slavonia</i>
	<i>Lika, Kordun and Banovina</i>
	<i>Istria, Primorje and Gorski kotar</i>
	<i>Dalmatia</i>
<b>Purchase of organic food for babies</b>	<i>yes, often</i>
	<i>yes, rarely</i>
	<i>no, never</i>

<i>most frequently purchased organic food baby products</i>	<i>food</i>
	<i>baby formula</i>
	<i>processed food</i>
	<i>toiletries</i>
	<i>diapers</i>
	<i>apparel</i>
	<i>footwear</i>
	<i>toys</i>
<i>preferred organic food baby products</i>	<i>other</i>
	<i>Hipp</i>
	<i>Babylove</i>
	<i>Holle</i>
	<i>Alnatura</i>
	<i>fruits and vegetables from family farm</i>
<i>frequency of purchase of organic food baby products</i>	<i>other products</i>
	<i>every day</i>
	<i>several times a week</i>
	<i>several times a month</i>
	<i>very rarely</i>
<i>place of purchase of organic food baby products</i>	<i>supermarkets</i>
	<i>specialised children stores (Baby center, Magic baby)</i>
	<i>drugstores (dm, Müller, Bipa)</i>
	<i>internet</i>
	<i>family farm</i>
	<i>market</i>
<i>percentage of the total purchase products for baby that relates to the purchase of organic products</i>	<i>less than 10%</i>
	<i>11 to 30%</i>
	<i>31 to 50%</i>
	<i>51 to 70%</i>
	<i>more than 71%</i>
<i>average monthly expenditure for organic products for babies</i>	<i>less than 200 HRK</i>
	<i>from 201 to 500 HRK</i>
	<i>from 501 to 1 500 HRK</i>
	<i>more than 1 501 HRK</i>
<i>motives for not buying organic products for babies</i>	<i>lack of information on organic products</i>
	<i>higher prices of organic products</i>
	<i>Unavailability of organic products</i>
	<i>insufficient supply of organic products</i>
	<i>the quality is equal to the quality of the conventional products</i>
<i>probability of purchasing organic products for babies in the future</i>	<i>definitely will</i>
	<i>probably will</i>
	<i>I do not know</i>
	<i>certainly will not</i>

<b>Item</b>	
<i>I_1</i>	<i>I give much attention to health and quality lifestyle.</i>
<i>I_2</i>	<i>It is important to me that baby products I buy are manufactured without the use of fertilizers, pesticides and other chemical products.</i>
<i>I_3</i>	<i>I plan in advance purchase of organic products for babies.</i>
<i>I_4</i>	<i>While buying organic products for babies, I look carefully at country of origin.</i>
<i>I_5</i>	<i>For me, the quality of organic products for babies is very important.</i>
<i>I_6</i>	<i>I buy organic products for babies due to the previous bad experience with conventional products.</i>
<i>I_7</i>	<i>I buy organic products for babies because I care about the health of my baby.</i>
<i>I_8</i>	<i>I am familiar with brands of organic food and nonfood products for babies.</i>
<i>I_9</i>	<i>I buy organic products for babies due to the concern for environment.</i>
<i>I_10</i>	<i>I buy organic products for babies because they are environmentally friendly.</i>
<i>I_11</i>	<i>I buy organic products for babies because I want to offer to my child the healthiest food.</i>
<i>I_12</i>	<i>I buy organic products for babies because they are safer for consumption than conventional products.</i>

<b>Item</b>	
<i>I_13</i>	<i>I buy organic products for babies because they are more quality than conventional foods.</i>
<i>I_14</i>	<i>I consider garments made with organic cotton the best for sensitive baby skin.</i>
<i>I_15</i>	<i>While buying organic products for babies, for me is very important kindness and professionalism of the sales staff.</i>
<i>I_16</i>	<i>Price of organic products is acceptable to me.</i>
<i>I_17</i>	<i>Organic products have higher price in comparison to conventional products.</i>
<i>I_18</i>	<i>The offer of organic products for babies is satisfactory.</i>
<i>I_19</i>	<i>I regularly follow promotional messages relating to organic products for babies.</i>
<i>I_20</i>	<i>About organic products for babies I learn mostly from friends who are also parents.</i>
<i>I_21</i>	<i>I am ready to pay higher price of organic products for babies.</i>



**Toni Popović, MSc Sociology**

Faculty of Humanities and Social Sciences, Split, Croatia

PhD Candidate

Postal Address: Poljana kraljice Jelene 1/3

E-mail: tonpop@ffst.hr

**Renata Relja, PhD., associate professor**

Faculty of Humanities and Social Sciences, Split, Croatia

Department of Sociology

Postal Address: Put iza nove bolnice 10c, Split

E-mail: rrelja@ffst.hr

**Tea Gutović, BSc Sociology**

Faculty of Humanities and Social Sciences, Split, Croatia

MSc Student

Postal Address: Put iza nove bolnice 10c

E-mail: teagut@ffst.hr

**SOCIAL ENTREPRENEURSHIP AS (IN)VISIBLE WORK AND BUSINESS****SOCIJALNO PODUZETNIŠTVO KAO (NE)VIDLJIVI OBLIK RADA I  
POSLOVANJA****ABSTRACT**

*Over 5% of employees in the sector of social economy at EU-28 level, as well as the high exposure rate to the risk of poverty and social exclusion (over 20% in 2015), point towards the possibility and the importance of increasing corporate social responsibility. Unfavorable socioeconomic trends are particularly evident in Southeast Europe, of which Croatia is a part of, especially in the countries bordering the European Union. In these bordering countries every other citizen is exposed to the above stated risks. Without neglecting the necessity of economic growth, social entrepreneurship addresses these problems by investing profits in the community, which evens the distribution of wealth, by means of practicing equality in decision-making (one member one vote), increasing possibilities for the disadvantaged and taking greater care of the environment. Such organizations foster inclusion and employment, equitable distribution of goods and informing the public about its activities. Social entrepreneurship in Southeast Europe is still a very rare, but increasingly common kind of work and business – it is insufficiently institutionalized due to the lack of tradition and awareness about civic activism, as well as the lack of legislative and strategic support for these companies in terms of clear criteria and benefits, funding sources, education, training, consulting etc. Therefore, the European Union encourages networking in Southeast Europe by (co)funding projects that do not exclude social responsibility from market competitiveness. Benefits of such an approach could become apparent in Croatia, not only in the form of new jobs but also in increasing possibilities for further community development. In this regard, the aim of this study is to present experiences and perspectives on social entrepreneurship in Southeast Europe countries, based on the conducted comparative analysis of policy documents and published research. The results should lead towards a better understanding of present patterns, the role and the importance of the given phenomenon and form a starting ground for future research.*

**Keywords:** social enterprises, work, employment, good practice examples, Southeast Europe

## SAŽETAK

*Više od 5% zaposlenih u sektoru društvene ekonomije na razini EU-28, kao i visoka stopa izloženosti građana rizicima siromaštva i socijalne isključenosti (preko 20% prema podacima iz 2015. godine), ukazuju na mogućnosti i važnost razvoja društveno odgovornog poslovanja. Nepovoljni socioekonomski trendovi naročito su izraženi u jugoistočnoj Europi, pa tako i u Hrvatskoj, pri čemu prednjače zemlje koje graniče s Europskom unijom, gdje je svaki drugi stanovnik izložen naznačenim rizicima. Ne zanemarujući nužnost ekonomskog uspjeha, socijalno poduzetništvo odgovara na probleme ulaganjem prihoda u zajednicu, čime se ujednačuje distribucija bogatstva, ravnopravnošću odlučivanja ("jedan član, jedan glas"), razvijajući ponudu za osobe u nepovoljnom položaju te brigom o okolišu. Takve organizacije potiču uključivanje i zapošljavanje, pravedniju raspodjelu dobara te upoznavanje javnosti o svojemu djelovanju. Socijalno poduzetništvo u jugoistočnoj Europi još je uvijek rijetki, ali sve vidljiviji oblik rada i poslovanja – nedovoljno je institucionalizirano uslijed nepostojanja tradicije i manjka svijesti o udruživanju građana, kao i nedovoljne legislativne te strateške podrške ovakvih poduzeća u smislu jasnih kriterija i prednosti pri djelovanju, izvora financiranja, edukacije, savjetovanja i dr. Stoga umrežavanje na razini jugoistočne Europe potiče i Europska unija (sufinanciranjem projektnih inicijativa koje kompetitivnost ne suprotstavljaju društveno odgovornom poslovanju, pri čemu koristi mogu postati očite u Republici Hrvatskoj, ne stvarajući samo nova radna mjesta, već razvijajući i ponudu u službi razvoja zajednice. U tom smislu, temeljni cilj rada jest komparativnom analizom strateških dokumenata i dosadašnjih istraživanja prikazati iskustava i perspektive socijalnog poduzetništva u zemljama jugoistočne Europe. Nalazi dobiveni ovom analizom trebali bi poslužiti boljem razumijevanja zakonitosti, uloge i značaja naznačenog fenomena te biti podloga za buduća slična empirijska istraživanja.*

**Ključne riječi:** *socijalna poduzeća, rad, zapošljavanje, primjeri dobre prakse, jugoistočna Europa*

### 1. Introduction

Increasing inequality in modern society calls for the implementation of social entrepreneurship. Increase in global prosperity, communication media, multinational corporations, democratic governments and education opportunities, is also followed by an increase in economic inequality, inefficiency of governments in providing public services, withdrawal of the state in front of the free market and environmental crisis (Nicholls cited in Baturina, 2013, 2). We are witnessing climate changes and the overuse of fossil fuels, to which current governments and (trans)national organizations still have to find an adequate solution (Petričević, 2012, 14).

Social entrepreneurship is only a small part of entrepreneurial activities of the world, although it is a quite recently recognized phenomenon with a great effect on reducing global problems. It exists in various forms and extends worldwide. Around 40 million people are employed in these enterprises, with the support of 200 million volunteers (Šimleša et al., 2015b, 18), which led to the establishment of the World Forum on Social Entrepreneurship in 2008, a platform that brings together entrepreneurs and promotes the development of social entrepreneurship (Vidović, 2012, 86). This is a business model for the 21<sup>st</sup> century which consists of market economy, free trade and competition elements, and its „sustainability is connected not only with economic success and profit maximization, but first and foremost with production of social wealth and environmental responsibility“ (Spreckley, 2012, 13). These enterprises operate based on the “Triple Bottom Line“ model, known also as „The Three Pillars“ that represent people, the planet and profit. In social enterprises workers are also its co-owners, and the process of decision making is democratic, based on the principle „one member – one vote“. Such organizations are focused on creating social wealth, not private profit, which makes them interesting to the customers gaining extra credit for doing business with them and being a part of the enterprise that aims to achieve social and/or environmental objectives (Spreckley, 2012, 17).

The expansion of social entrepreneurship in Europe was induced by interconnected social changes happening in the second half of the last century. As opposed to economic rationalism and reductionism, it is embedded in social relations, networks and structures that determine the actual boundaries of business behavior as social and cultural background (Čengić, 2006, 9-12). This approach also describes our study with the aim of detecting the current state of social entrepreneurship in Southeast Europe countries, the role and the interest of meaningful stakeholders in this sector and providing guidelines for its future development. The strengthening of innovation and the civic participation of European population can be seen as a reaction to (Šimleša et al., 2015b, 17): 1. political crisis after fuel issues in 1970s, economic and financial issues and a debt crisis that followed; 2. elimination of the welfare state that was based on general services as an unquestionable rights of the citizens; 3. the loss of the moral compass in the time of the crisis, the fragmentation of citizens' rights and the building tension among different social groups; 4. the democratic deficit caused by the disappointment in the politics and the loss of confidence in the representatives; 5. the process of globalization in which citizens lost the control over the politics that has transferred to the invisible and incomprehensible areas of global institutions, bank conglomerates and business groups. Šimleša et al. (2016b, 17) indicate the potential causal link between the crisis of the welfare state and the expansion of neoliberal capitalism ideology on one side, and the revival of social entrepreneurship on the other. Even though the work of social entrepreneurs after World War II "was in the quiet phase, it was constantly present and developed, but not as a part of national and EU policies and documents as today".

The *Europe 2020* strategy, as one of the currently most important documents of the EU, highlights the growing importance of social entrepreneurship in achieving its goals. It was adopted in 2010 with a purpose of economic crisis recovery based on "smart, sustainable and inclusive growth"<sup>1</sup>. Smart growth includes knowledge and innovation based development, sustainability includes competitive but also green and sustainable economy, while inclusive growth means high employment rates by promoting economic, social and environmental cohesion (Petričević, 2012, 15). Since 2011, the *Programme for Employment and Social Innovation* (EaSI) is available to all European Union's social entrepreneurs, with the programing period until 2020. Alongside EaSI, encouragement in these activities is provided by the *European Social Entrepreneurship Fund* (EuSEF) and structural funds – *European Social Fund* (ESF) and *European Regional Development Fund* (EFRR).

In concluding remarks of the study on social entrepreneurship in European countries, published by the European Commission in 2014, the need for further research is highlighted as well as the need of increasing knowledge, updating information and involving more stakeholders in the discussion, which eventually led to an online questionnaire for acquiring a feedback on this study.<sup>2</sup> The potential of social entrepreneurship growth is also represented in the *Strasbourg Declaration*. More than two thousand social entrepreneurs and other stakeholders took part in its adoption in 2014. This Declaration establishes main means of improvement of this form of entrepreneurship in order to achieve Europe 2020 goals. It also highlights the importance of EU institutions and member states inclusion in the development of its capacities while using it as a part of structural reform and as a way of getting out of financial crisis. The European Commission should turn its commitment to social entrepreneurship into a regular part of politics based on "current research and statistics on national levels due to better understanding, acknowledging and visibility of this sector, among those who create politics but also among the citizens."<sup>3</sup>

---

<sup>1</sup> [http://ec.europa.eu/europe2020/europe-2020-in-a-nutshell/index\\_hr.htm](http://ec.europa.eu/europe2020/europe-2020-in-a-nutshell/index_hr.htm) (6 April 2016)

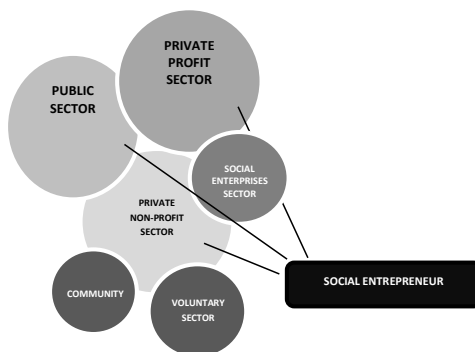
<sup>2</sup> <https://ec.europa.eu/eusurvey/runner/75bfd5f7-5053-c25f-739c-d69618425635> (8 April 2016)

<sup>3</sup> [http://ec.europa.eu/internal\\_market/conferences/2014/0116-social-entrepreneurs/docs/strasbourg-declaration\\_hr.pdf](http://ec.europa.eu/internal_market/conferences/2014/0116-social-entrepreneurs/docs/strasbourg-declaration_hr.pdf) (8 April 2016)

## 2. Conceptualizations of Social Entrepreneurship

The social entrepreneurship is still not thoroughly defined concept. Its origins date back to the 18th century when Robert Owen began protecting his employees by improving their work conditions and enabling them and their family proper education and involvement in various cultural activities (Singer cited in Zrilić, Širola, 2014, 63). Owen urged workers and trade unions to organize groups of manufacturers that would have means of production at joint ownership. The term social entrepreneurship was designed by Bill Drayton, founder of one of the first foundations to promote entrepreneurship with an ethical integrity, directed towards social value and not only personal profit (Vidović, 2012, 23). He emphasized the need for the global entrepreneurs' movement as "public innovators that will improve the society by their actions" (Šimleša et al., 2015b, 13).

*Figure 1* The context of social enterprises and social entrepreneurs' activity



Source: Petričević, 2012, 40

The number of definitions of this concept increased with the expansion in its usage. Social entrepreneurship has been used as an "umbrella" term which includes a wide range of innovative and dynamic practices and discourses in social and environmental area, and it can be seen as a model for addressing market failures or as a proof that entrepreneurial model can be adjusted to all life spheres (Nicholls cited in Baturina, 2013, 124). Austin, Stevenson and Wei-Skillem differentiate between narrow and broad understanding of social entrepreneurship (see Figure 1). In the broad sense, it represents a very innovative approach to achieving social goals that can be a profit, but also non-profit and between sectors activity. In the narrow sense, it is a phenomenon that occurs strictly in the non-profit/civil society sector when non-profit organizations use marketing strategies in acquiring financial income (Austin, Stevenson, Wei-Skillem cited in Vidović, 2012, 30).<sup>4</sup> This paper is aimed at the understanding of social entrepreneurship in the context of the non-profit sector, as an insufficiently used type of work and business in the area of Southeast Europe, especially in Croatia.

Despite the lack of a single definition of social entrepreneurship, most of the authors claim that its main purpose is to achieve socially oriented goals by using innovative solutions. For example, the Organization for Economic Cooperation and Development (OECD) defines social entrepreneurship as "any private activity conducted in the public interest, organized with an entrepreneurial strategy,

<sup>4</sup> Based on the work of social enterprises, the model of corporate social responsibility is partially accepted by an increasing number of private for-profit enterprises, with the main difference in the approach with regard to social responsibility. It is a main objective for the first, while the latter use it to increase their products/services' market value (Petričević, 2012, 22). Despite the fact that they are often part of the civil sector, social enterprises are different from non-profit organizations too. Their members and employees decide on profits, while the users are another difference. Civil society organizations are formed mainly due to meeting the needs of the founders and financiers, while users of social enterprises often vary (Monzon and Chaves, 2008).

but whose main purpose is not the maximization of profit but the attainment of certain economic and social goals, and which has the capacity for bringing innovative solutions to the problems of social exclusion and unemployment” (OECD, 1999, 3). Praszkiec and Novak highlight five pillars of social entrepreneurship – social mission, innovation, social change, entrepreneurial spirit, creativity and personality (Šimleša et al., 2015b, 14). Social enterprises target their revenue towards achieving its mission, measuring their success through profitability and gained social well-being, while investing most of their financial profit in the future activities, achieving sustainability and independence. There is a need for further demarcation of social entrepreneurship from corporate social responsibility. The latter means that enterprises set aside only a small amount of money for socially oriented goals (Baturina, 2013, 127; Zrilić, Širola, 2014, 64). The social entrepreneurship's hybridity, as one of the main features of this growing phenomenon, is manifested through the merging of seemingly incompatible – an economic profit with socially oriented values and innovative ways of solving existing social problems (Vidović, 2012, 25-39).

Given the dependence on social need of a certain community, it is almost impossible to list all the social entrepreneurship goals. Its activity should ensure consistency in achieving different objectives that can be reduced to:

- social welfare,
- health care,
- environmental objectives,
- education, and
- social inclusion of various social groups.

Social welfare includes activities that persist in social inclusion of marginalized social groups. The most common are activities with the homeless, as well as education and training of individuals for their inclusion in the labor market. Health care aims to improve life quality of individuals suffering from chronic diseases, by educating them or providing them with various forms of home care in cooperation with certified medical personnel. Environmental objectives mostly depend on the context in which social enterprises exist – they can be aimed at specific areas of environmental protection or at education of citizens on enhancement of environmental quality. As a specific objective of social entrepreneurship, the education of citizens can be a part of all other activities, but it can also stand on its own aimed towards the citizens with special needs. With this kind of education, their social inclusion can be achieved, as well as their adjustment to the existing social conditions. This can be accomplished through development of programs that direct citizens towards an active involvement in society (Zrilić, Širola, 2014, 65). With a variety of social entrepreneurship's offer, the welfare mix model was developed. It is recommended as a modernization model of traditional social programs as the ones present in Southeast Europe countries. It includes decentralization of social services and involvement of various stakeholders in order to produce a synergistic effect of their programs (Bežovan, 2008, 395).

Finally, social entrepreneurship greatly depends on its social context. The phenomenon is still evolving, taking on different forms and reflecting a variety of basic features depending on the society it develops in. This growing business has a potential to capitalize on the new ways of acquiring resources, developing solidarity and mutual trust in the community and sharing social values. It can take an integrative role between the economy and society (Baturina, 2013, 129).

### **3. Methodology**

High unemployment rates and a large number of marginalized and socially excluded are the reason of the growing need for social entrepreneurship as a type of work and business throughout Europe. Such enterprises are basically determined by two main types of activities: the integration of marginalized and socially excluded in the labor market (work integration social enterprises; WISE); the

provision of services and social care in the local community (Šimleša et al., 2015b, 20). In 2015, over 10% of the jobs at EU-28 level operated within the social economy sector in approximately two million social enterprises, or about 6% of all the workers were employed in this sector (European Commission, 2016b, 1). At the same time, statistics show that over 20% of population is exposed to daily poverty and social exclusion risks. Unemployment rate at EU-28 level is decreasing since 2013, and is currently at 8.9% (January 2016). However, it is still on the rise in Southeast Europe (Eurostat, 2016, 1).

There is no unique legislative framework for the development of social entrepreneurship at the EU level. Member states are free to adopt adequate solutions within their own social context. Regulatory requirements and appropriate strategic plans must be made in order to implement social entrepreneurship as a way of combating unemployment, poverty and social exclusion. Therefore, *the aim of this study is to represent experiences and perspectives of social entrepreneurship in the countries of Southeast Europe, based on comparative analysis of policy documents and published research.* Besides the Republic of Croatia, the study included its neighboring countries, where social entrepreneurs collaborate to some extent at the regional level. They are all faced with similar problems of high public expenditure, public debt, mismatch between education and the labor market, high unemployment rates and poverty and social exclusion risk rates. This paper tends to point out the challenges, issues and examples of good practice in social entrepreneurship in order to strengthen its activities in the region by learning from each other. The findings should lead to a better understanding of patterns, the role and the importance of given phenomenon and to serve as a basis for further research. A special emphasis has been put on the current state and possibilities of social entrepreneurship in the Republic of Croatia in the context of regional cooperation and development.

#### **4. The Institutionalization of Social Entrepreneurship in Southeast Europe**

One of the reasons for founding the European Union in the early 1990s was the establishment of a single European market. In 2011, the European Commission adopted the *Single Market Act* which includes several decisions important to the development of social entrepreneurship: improving the financing of social entrepreneurship, promoting social cohesion and workers' fundamental rights, improving the public procurement system and access to small and medium entrepreneurship, and directing towards providing socially responsible and environmentally sustainable goods and services (Spear, 2014, 9). The results of *Global Entrepreneurship Monitor's* report, based on 150,000 conducted interviews in 49 countries throughout the world, position East Europe at 5<sup>th</sup> place with an average of 2.7% of workforce included in some form of social entrepreneurship. Croatia leads among the countries of this region with an average of 4.4% of workforce involved. As for the types of social enterprises, economically oriented hybrids (1.1%), non-profit organizations (0.9%) and socially oriented hybrids and for-profit social enterprises (0.7%) dominate in East Europe (Terjesen et al. 2011, 8).

Large differences in a general development level among the countries of Southeast Europe and their economics can be seen through the legislative and institutional framework of social entrepreneurship. Italy and Austria are the oldest member states of the European Union in this region, followed by Slovenia, Hungary and Croatia. The rest have a candidate country status (Serbia, Montenegro, Albania, FYR Macedonia) or potential candidates status (Bosnia and Herzegovina, Kosovo). In the countries still waiting for the EU membership, concepts and terms of social entrepreneurship are mentioned only in a few national strategies (*The Social Inclusion Strategy of Bosnia and Herzegovina; The Development Strategy of Kruševac Municipality in Serbia; Albanian National Strategy for Employment and Skills 2014-2020*, etc.). In contrast, member states use clear definitions of this phenomenon as a business form aiming to improve the community and strengthen social cohesion

and solidarity, searching for innovative solutions to current social, environmental, economic and other issues (Babović et al., 2015, 36; Petričević, 2012, 53).

One can speak of a stimulating legislative framework for social entrepreneurship only in the countries of Southeast Europe in which such a framework actually exists. Most social enterprises operate under the law on associations and the law of cooperatives. Only in Italy and Slovenia there are the *Law on Social Enterprise* (Italy) and the *Social Enterprise Act* (Slovenia). In Italy, this law defines the criteria for social enterprise that is obligated to keep social accounting and inform its employees about current activities. In Slovenia, the law was adopted at the beginning of 2012 with a main objective of decreasing unemployment rates. It defines types A and B of social enterprise. A-type is founded with a purpose of doing activities prescribed by this law, while a minimum of annual revenue from these activities is 50%. In B-type, at least a third of its employees should form marginalized social groups. In Austria, the legal norms of social entrepreneurship are integrated in regulations dealing with (un)employment, customers' protection and other social issues. In Albania, the draft *Law on Social Enterprises* was initiated in 2010; the Government of Montenegro adopted a working plan in 2013 which includes adopting a *Law on Social Entrepreneurship* by the end of 2016; in Serbia, there are several announcements of the adoption of this Law in 2016 (Babović et al., 2015, 34-145). In addition to existing laws, each country in this region has at least one strategy promoting social entrepreneurship investment or an investment in some of its forms (Petričević, 2012, 55-65).

The institutional framework that should provide adequate conditions for the enforcement of laws and strategies is mostly at its beginnings in Southeast Europe. The Ministry of Economy and the Ministry of Labor, Social Affairs and Customer Protection are responsible for strengthening of social entrepreneurship in developed countries such as Italy and Austria. Under the funding of the Ministry of Labor and Social Affairs in Hungary, the network of social enterprises called Civil Employment Workshop (CFM) has been established. In post-Yugoslav countries, the range of stakeholders for (potential) development of social entrepreneurship is much broader. In Croatia, there is the Government Office for Cooperation with NGOs. Nevertheless, the Ministry of Entrepreneurship and Crafts, the Ministry of Social Policy and Youth and the Ministry of Labor and Pension System still have the greatest influence. In recent years, there have been several initiatives of social entrepreneurship in Croatia, among which the most active one is CEDRA (see more in Chapter 4.2). In Serbia, a large number of initiatives and networks are founded to promote social entrepreneurship, like the Balkan Fund for Local Initiatives, European Movement, Initiative for Development and Cooperation, Smart Collective and Group 484, which jointly established the Coalition for the Development of Social Entrepreneurship in 2011. In Bosnia and Herzegovina, there is a spontaneous development of social entrepreneurship within the framework of the *Bosnia and Herzegovina Federation Development Strategy 2010-2020* and the *Social Inclusion Strategy of Bosnia and Herzegovina*, while Slovenia still has to develop its institutional system. Despite the fact that the Social Enterprise Act clearly foresees an establishment of Social Entrepreneurship Office, this type of business is still without an institutional support predicted by the law that should be provided by the Ministry of Economy, the Ministry of Labor, Family and Social Affairs, Sustainable Development Committee as well as the Social Entrepreneurship Forum, founded at the end of 2011 with the full support of the government, which ought to lead the development and coordination of social enterprises (Petričević, 2012, 78-86).

Various legislative and institutional frameworks, as well as diversity in defining and understanding of social entrepreneurship, result in different types of social enterprises. The most common social enterprises types in South East Europe are shown in Table 1. There is a predominance of associations operating within the civil society sector. In addition, there are a lot of trade companies and numerous cooperatives traditionally promoting social values and cohesion (Petričević, 2012, 86).

**Table 1** *The types of social enterprises in Southeast Europe*

<b>Italy</b>	social cooperatives; cooperatives; associations; foundations; trade companies
<b>Slovenia</b>	associations; institutes; (social) cooperatives; trade companies; family businesses
<b>Austria</b>	associations; cooperatives; foundations
<b>Hungary</b>	associations; foundations; (social) cooperatives; trade companies; family businesses
<b>Croatia</b>	associations; social cooperatives; school cooperatives; trade companies
<b>Serbia</b>	associations; cooperatives; trade companies; business incubators
<b>Montenegro</b>	associations; trade companies; cooperatives
<b>BIH</b>	associations; microcredit organizations; foundations; trade companies
<b>Kosovo</b>	associations
<b>Macedonia</b>	associations; trade companies; cooperatives

Source: Petričević, 2012, 86

#### 4.1 The Review of Social Entrepreneurship in the Southeast Europe Countries

At the end of the 1990s, Italy entered the Euro Zone with a high public debt and a weak role of the state in providing social services. So far, a number of reforms resulting in decentralization of social policies have been taken. However, the majority of funding still comes from the state which invests in more developed areas, widening the gap between the developed North and the under-developed South where unemployment rates have recently reached a high of 13.4% (ISTAT, 2009). Still, a long period of reforms resulted in many laws dealing with the key issues of social entrepreneurship – the *Law on Social Cooperatives* (381/1991), the *Law on NGOs* (49/1987), the *Law on Voluntary Organizations* (266/1991), etc. and finally the *Law on Social Enterprise* (118/2005). In 2014, social economy sector employed 40,000 people in 12,000 organizations (Šimleša et al., 2015b, 34), primarily due to a 20-year-long growth of annually 10-40% in the number of social cooperatives (Petričević, 2012, 56-58).

In Slovenia, social entrepreneurship is determined by the types A and B of social enterprise, as defined by the Social Enterprise Act. In 2011, there were a total number of 46 registered social enterprises, but there were still 142 organizations that employed persons with disabilities, meeting the criteria of social enterprises. As development-oriented European countries, Austria and Hungary also have relatively organized social economy sectors. In Austria, every entrepreneur, company or organization that carries out activities for the public good is entitled to certain privileges under the tax law. It is estimated that there are between 273 and 750 social enterprises in this country (European Commission, 2016a, 28). The turning point in Hungary happened in 2009 with major changes in *Companies Act* when all the legal form of businesses reached the opportunity to gain a non-profit organization's status (Petričević, 2012, 67).

Being the least developed country in Southeast Europe, social policy in Albania aims to reduce unemployment, social exclusion and regional differences (Ymeraj, 2007, 187). Since 2008, this country has a constant growth in public debt and consumption rate as well as a decline in GDP. Average monthly wages are the lowest in Southeast Europe (around 350 euros net). In 2013, the unemployment rate was 15.9%, and a year before 13.4% (see Table 2) (INSTAT, 2013; World Bank, 2014). The most common organizations in Albanian non-profit sector are associations, centers and foundations, governed by the *Law on Non-profit Organizations*. Their activities are highly centralized in the capital Tirana. The first official statistics on non-profit sector emerged only in 2005. In 2014, this sector included a total of 5,623 organizations (3,944 associations, 463 foundations, 1,070 centers, 146 other non-profit organization types). Official statistics on the social economy sector still do not exist, as well as statistics on employees in the non-profit sector.



According to unofficial estimates, there are approximately 66,000 jobs in this sector, paid and volunteer, which makes 7.3% of the total labor force in Albania (Babović et al., 2015, 31-41).

In the post-Yugoslav countries, the social entrepreneurship is still a relatively new, unexplored and often misunderstood concept. Bosnia and Herzegovina's situation in the last two decades is marked with the recovery from the early 1900s war. High public debt, high level of public expenditure and a stagnant GDP growth resulted in unstable market and high unemployment rates (see Table 2). Current social entrepreneurship exists only due to the international support and sponsorship and it is mainly environmentally oriented. There is no single register of civil society organizations, as well as official data on the number of enterprises and employees. According to findings from 2012, there are approximately 12,000 civil society organizations. However, many of them are for-profit organizations in fact, such as sports clubs, cultural organizations, etc. According to the Union of Cooperatives, there are 850 cooperatives in Bosnia and Herzegovina, out of which 20% reach the level of accumulation of income vital for their development, 50% operate on a verge of profitability and 30% operate with losses for more than one year (Babović et al, 2015, 51-61). Lack of knowledge of key stakeholders, lack of minimum equity, knowledge and skills and insufficiently developed institutional framework are highlighted as the main reasons of insufficient development and investment levels in social entrepreneurship (Ninković-Papić, 2012, 13/14).

After 1990s, the majority of social enterprises in Serbia and Montenegro have focused on helping the people in areas affected by war and social reintegration of marginalized groups and socially excluded which represents a big part of population according to registered unemployment statistics and at risk of poverty and social exclusion rates (see Table 2). In 2012, there were 1,196 social enterprises in Serbia with approximately 10,000 employees, while in Montenegro two years later was almost 50% more registered civil society organizations in general (SORS cited in Babović et al, 2015, 111). According to the 2010 survey of the Association for Democratic Prosperity ZID, less than 1% of the Montenegrin workforce was employed in the civil sector – 556 permanently employed, 1,358 based on service contracts, short-term or occasional employment (TACSO cited in Babović et al., 2015, 112). The organizations whose sustainability is based on their own incomes are very rare, as well as those who estimate their financial situation as being stable for more than 12 months. Although there is no official definition of social enterprises in the Montenegrin legal system, several civil society organizations do operate on these terms. In the social economy sector in Serbia, cooperatives have a largest number of employees (58.6%), followed by companies hiring persons with disabilities (20.2%), associations (14.0%) and other types together (7.2%). Men are mostly employed in this sector (62.3%), usually younger than 30 years (14.3%) or older than 51 (35.7%). Statistics also show a large number of volunteers engaged in the social economy sector. Among 23,836 volunteers, men and women are almost equally represented (50.7% women, 49.3% men) (SORS cited in Babović et al., 2015, 131-132). It is worth mentioning that social enterprises in Serbia direct more than 50% of their income towards helping vulnerable social groups, rural development, environmental protection and similar activities. As key issues, the representatives of this sector highlight insufficient funds and resources and low prices of their products (Babović et al., 2015, 133).

The macroeconomic situation in Kosovo remained stable despite the global financial crisis and numerous political changes in that area. From 2008 to 2013, the annual GDP growth rate was 5.2% on average. Nevertheless, the monthly wages are still low, the unemployment rates high, and almost a third of population is positioned below the poverty line (see Table 2). Non-profit sector includes 4,882 organizations, but only 500 of them are active. Despite the lack of legislative framework, the concept of social enterprise starts getting recognized, although it is still mainly identified with public enterprises currently undergoing the privatization process. So far, activities of six social enterprises are familiar, with an objective of further development and establishment of more enterprises (Babović et al., 2015, 93).

In Macedonia, the socially excluded and marginalized are primarily target groups of social enterprises (Petričević, 2012, 89). Nearly half the population is at risk of poverty and social exclusion. Social entrepreneurship is mostly identified with the corporate social responsibility, occurring mainly in associations. With the *Law on Associations and foundations* from 2010, the concept of association was equaled with civil society organizations with an exception of political parties, unions and chambers. According to statistics, there are over 13,000 of such associations, out of which only 2,500 are active. Since they greatly depend on donations, the main problem they face is their sustainability. Only a fifth of all the organizations have their own income and heterogeneous activities are not recognizable enough as social outputs. A significant step towards the development of social entrepreneurship was the 2014 conference entitled *Social Entrepreneurship – New Perspective for Civil Society Organizations*, at which active and successful enterprises were highlighted – *Izbor, CIRA, ORT, Mladi-info*, etc. (Babović et al., 2015, 148-149).

**Table 2** GDP growth rate, unemployment rate and at risk of poverty rate for Southeast Europe countries in 2012 and 2013

State	GDP growth rate (%)		unemployment rate (%)		at risk of poverty rate (%)	
	2012	2013	2012	2013	2012	2013
<b>Italy</b>	-2.8	-1.7	10.7	12.2	29.9	28.5
<b>Slovenia</b>	-2.7	-1.1	14	14.2	19.6	20.4
<b>Austria</b>	0.8	0.3	4.9	5.4	18.5	18.8
<b>Hungary</b>	-1.7	1.9	10.9	10.2	33.5	34.8
<b>Albania</b>	1.3	1.1	13.4	15.9	-	-
<b>BIH</b>	-1.2	1.6	28.2	27.6	-	-
<b>Montenegro</b>	-2.7	3.5	19.7	19.5	-	-
<b>Serbia</b>	-1.5	2.5	23.9	22.1	-	42
<b>Kosovo</b>	2.8	3.4	30.9	30	-	-
<b>Macedonia</b>	-0.4	2.7	31.0	28.6	50.3	48.1
<b>Croatia</b>	-2.2	-1.1	15.9	17.2	32.6	29.9

Source: (adapted from Babović et al., 2015; Eurostat<sup>5</sup>)

A few examples of good practice of social entrepreneurship in Southeast Europe are mentioned in the literature. These are companies, projects or initiatives that operate at regional and national levels with a very low level of international coordination. These enterprises cover a wide range of activities, for example, integration of socially excluded and unemployed (*Ban, Austria; Naša kuća, Serbia; SOS Hotline Nikšić, Montenegro*), hospitality (*La Cordata Hostel & Rooms, Italy; Gostilna dela, Slovenia*), healthy food production (*Mozaik Foundation, BIH; Ruke Cooperative, Croatia*), environmental protection and sustainable development (*Green & Clean, Serbia*) and preservation of cultural goods of their region, ethnical group or country (*Romani Design, Hungary; Bosanske rukotvorine, Bosnia and Herzegovina*). Although there are a few initiatives and enterprises cooperating within a single country, such as those belonging to the consortium of social cooperatives *Elpendu* in Italy, Croatian *CEDRA* or Serbian *SENS*, it is precisely the lack of international coordination and cooperation of the entrepreneurs with a common or similar objectives that stops the further development of social entrepreneurship in Southeast Europe. In almost all these countries, the concept of social entrepreneurship is often seen as the legacy of socialism, or only one of the forms of humanitarian assistance. As such, it carries the connotation of an undesirable return to the old and traditional or socialist forms of business and promoting social values (Petričević, 2012, 102-127; Babović et al., 2015, 164-197).

<sup>5</sup> <http://appsso.eurostat.ec.europa.eu/nui/submitViewTableAction.do/> (2 April 2016)

## 4.2 Croatian Experience of Social Entrepreneurship

After gaining independence in the mid-1990s, Croatian government's main focus was accessing the European Union and other transnational organizations. This has opened the local market to accelerated privatization process, strengthening its profit and at the same time weakening social function (Puljiz, 2008). The process of democratic and market transition is being continued in Croatia. In recent years, it is determined by the global financial crisis, an increase in already high unemployment rates, poverty risk rate increase and the growing public debt (see Table 2). Given the social changes that led to the expansion of social entrepreneurship in Europe at the end of the last century, it is not surprising that it starts getting institutionalized in our country.

In Croatia, there is no systematic and long-term investment in social entrepreneurship. Half a century long coalition of political elite and working class during which the elite, in order to gain legitimacy and maintain existent ideology, provided the workers with security in employment and various social rights, ended in the early 1990s (Županov, 2002, 38). With the growing number of poor and socially marginalized and excluded, the international organizations began to promote social entrepreneurship that was accepted by part of a civil society and several associations, initiating projects and networking. At this period, the state did not take much for its development. As the stakeholders point out, the public representatives only began discussing social entrepreneurship when Croatia launched its European Union membership since it was a sector in which the Union is very much interested (Šimleša et al., 2015a, 17).

Social entrepreneurship in Croatia is first mentioned by Gojko Bežovan, who notices the importance of the non-profit sector in providing social care and participating in the state's social system. In his 1995 paper entitled *The Private Non-profit Sector and the Development of Social System in Croatia*, he described social entrepreneurship as a non-profit entrepreneurship (Šimleša et al., 2015 a, 17). First official strategic document mentioning this type of business is the *Program of Cooperation between the Government of the Republic of Croatia and the Non-Government – Non-Profit Sector* from 2000. However, it does not explain specific means for its development (Vincetić, Babić, Baturina, 2013, 270). Most of the social entrepreneurial activities are currently taking place within the civil society. The civil society organizations have launched the first social enterprises, leading still in this type of entrepreneurship (see Tables 3 and 4) (Ivankovic Knezevic et al., 2013, 2). (Ivanković Knežević et al., 2013, 2).

**Table 3** Civil society organizations (associations) in Croatia (2010-2013)

	2010	2011	2012	2013
<b>number of associations</b>	42,472	45,237	47,999	50,809
<b>number of employees</b>	18,667	19,610	20,138	-
<b>annual income (mil. EUR)</b>	569,8	582	598,3	611,6
<b>annual income (% GDP)</b>	1.28%	1.31%	1.36%	1.41%

Source: Government of the Republic of Croatia Office for Cooperation with NGOs cited in Babović et al., 2015, 75)

**Table 4** Social entrepreneurship actors in Croatia

	2013	2014
<b>associations</b>	46	44
<b>cooperatives</b>	36	31
<b>companies</b>	13	13
<b>institutions</b>	1	2
<b>TOTAL</b>	<b>95</b>	<b>90</b>

Source: Šimleša et al., 2015a, 61

Although Croatia, alongside the more developed members of the European Union such as Austria and Italy, leads in the percentage of workforce included in social entrepreneurship among the countries of Southeast Europe (4.4%)<sup>6</sup>, its legislative framework is still not defined by a single legal document. There is a highly developed system of associations funded on the basis of public needs at all levels (Zrilić, Širola, 2014, 66). Therefore, the social economy in Croatia is determined mainly by the *Law on Civic Associations* (NN 74/14) and the *Cooperatives Act* (NN 34/11, 125/13, 76/14). As reasons for the establishment of social cooperatives, which are most similar to the work of social enterprises, the amended Cooperatives Act from 2011 emphasizes (Cooperatives Act, 2011, 66):

- "meeting the basic needs of socially vulnerable, helpless and other individuals, who cannot do it on their own or with the help of their families due to unfavourable personal, economic, social and other conditions;
- "inclusion of individuals with reduced working capacity as well as individuals without the substantial resources to meet their basic needs according to their work, pension or other income sources".

In addition to these documents, the activities of specific types of social enterprises are defined by the *Act on Foundations and Funds* (NN 36/95, 64/01), the *Law on Institutions* (NN 76/93, 29/97, 47/99, 35/08) and the *Companies Act* (NN 111/ 93, 34/99, 118/03, 146/08,137/09) (Vincetić, Babić, Baturina, 2013, 271). The adoption of a single legal document on social entrepreneurship with a clear definition of social enterprise as a legal form would make policies towards the sector of social economy more transparent (Šimleša et al. (2015a, 17). Currently, different types of organization operating as social enterprises are subjected to different rules of acting, as well as different ways and possibilities for financing. Therefore, it is not clear whether the different types of organizations will be able to meet the criteria of social enterprises that have recently been adopted by the Government.

Social inclusion of the unemployed, socially marginalized and excluded is also promoted in the *National Strategy for the Creation of an Enabling Environment for Civil Society Development 2012-2016* (Government of the Republic of Croatia, 2012) and the *Strategy for the Development of Social Entrepreneurship in the Republic of Croatia 2015-2020*. By adopting the latter, the Ministry of Labor and Pension System, as the most responsible organization for the development of social entrepreneurship in Croatia, plans to allocate approximately 270 million kunas for encouraging such activities (Odak Krasić, Šaravanja, 2015, 128). The overall objective of the Strategy aims to „establish an enabling environment for the promotion and development of social entrepreneurship in

<sup>6</sup> In 2014 there were 795 persons employed in social entrepreneurship sector. However, since countries in Southeast Europe have varying criteria for defining social entrepreneurship, the statistical data measured in these countries should be approached with caution. It suffices to say that even authors from the same country sometimes use different terminology and data. For example, the number of social entrepreneurship businesses in Croatia varies from 40 to 210, depending on the source of information (Šimleša et al., 2015a, 60).

Croatia in order to reduce regional disparities and ensure the increase of employment rates, equitable distribution and management of social wealth". To this end, it is necessary to improve the legislative, institutional and financial framework for social entrepreneurship, as well as to inform and educate the public on this issue (Government of the Republic of Croatia, 2015, 20). Along with the above strategy, the strengthening of social entrepreneurship is overseen by the *Croatian Tourism Development Strategy until 2020*, the *Entrepreneurship Development Strategy 2013-2020* and the *Strategy of Women's Entrepreneurship Development in the Republic of Croatia 2014-2020* (Babović et al., 2015, 69).

The social entrepreneurship is a way of reducing unemployment and social exclusion. In Croatia, this business is not sufficiently recognized by the public and the media. One of the first studies on social enterprises conducted in 2006 by the international organization NESsT showed inefficiencies and non-systematic approach as their main features in Croatia. The European Commission's 2014 Report stressed out shortcoming of financial system and a poor cooperation as the main reasons for this situation. According to the online survey conducted on a sample of 34 Croatian youth associations in 2015, youth still do not establish their own social enterprises although they are sufficiently informed about this concept and most of them see it as a sustainable way of business (Odak Krsić, Šaravanja, 2015, 121-127).

Over the last 15 years, several organizations in Croatia operate on the principles of social entrepreneurship. SLAP Association for Creative Development leads in educating and informing the public about social entrepreneurship by establishing Social Entrepreneurship Forum in 2009. This Forum is part of the IPA Programme. It consists of informal network of organizations, individuals and stakeholders interested in the development of social entrepreneurship in Croatia (Ivanković Knežević et al, 2013, 2; Mašek Tonković, Križanović, 2012, 95). By Forum's initiative, Cluster for Eco-social Innovations and Development – CEDRA was established. It is a network of enterprises and individuals that work on informing and educating the public about social entrepreneurship through its regional centers. In 2013, CEDRA supported over 2,000 social entrepreneurship stakeholders in its 6 regional centers (Babović et al, 2015, 73). In addition to inclusion of marginalized and socially excluded, social entrepreneurship is also focused on inclusion of the youth into the labor market. Croatian Youth Network was established with that objective, an alliance of 73 youth NGO's, as leading organization of youth in the non-profit sector and an active member of European Youth Forum (Croatian Youth Network, 2016).

Despite the improvements, the possibilities of social entrepreneurship have not been truly recognized by the Croatian labor market. As the most important recommendations on future development and integration of social entrepreneurship as a widely known type of work and business, a number of authors highlight (Mašek Tonković, Križanović, 2012, 96-97; Ivanković Knežević et al., 2013, 7-8; Spear, 2014, 16-17; Babović et al., 2015, 80-81; Šimleša et al., 2015a, 76): tax system and public procurement reforms that would provide incentives and benefits to social enterprises; establishment of financial system; preparation of legislative and institutional framework for the social enterprise as a new legal form; informing the public on the possibilities of participation in social entrepreneurship; education of entrepreneurs about this type of business; development of methodology for systematic monitoring and evaluation of the social effects of social entrepreneurship; additional efforts in inclusion of socially marginalized and excluded; development of sectoral cooperation in Croatia, as well as international cooperation with other Southeast Europe countries with the mutual objective of creating a sustainable economic development of this region.

## 5. Conclusions

In addition to commonly occurring obstacles in the development of social entrepreneurship, such as unsupportive legislature and financial frameworks, countries in Southeast Europe also face a greater

economic crisis and the lack of social entrepreneurship tradition and its development strategies. Furthermore, a lack of public awareness about social entrepreneurship and poor entrepreneurial skills among stakeholders are issues not to be overlooked. If the legislative and financial conditions become stimulating, inexperienced entrepreneurs could still pose a great problem in the sense of stalling business opportunities (Petričević, 2012, 94-98).

Research shows that social entrepreneurship is more prevalent in developed countries which can be explained by greater altruism and more focus to community needs once the individuals achieve their personal goals (Vidović, 2012, 88). On the other hand, social entrepreneurship is promoted as a form of dealing with less developed countries' problems, taking into account all the present obstacles happening in Southeast Europe as well. Even though there are a few examples of good practice and social entrepreneurship is nowadays more commonly represented in discussions, its development is only at the beginning. The expansion of these activities will depend on the persistence or existence of purposeful intent within a given community, because the basic need is not a sufficient prerequisite for the production process. This is clearly pointed out by Rogić (2006, 43-46), who relies on Weber's understanding of human rationality as achieving goals by the most effectively perceived means, partially defined by the actor's autonomy and partially socially determined by shared values, agreed among different actors. Along with the necessary support at the EU and national levels, entrepreneurs themselves have to work on developing competencies, creating the market and their enterprises visibility, which can be greatly achieved by regional cooperation. On that note, seven NGO's representatives from Turkey, Serbia, Montenegro, Bosnia and Herzegovina, FYR Macedonia, Kosovo and Albania signed in 2014 the *Declaration on the Development of Social Entrepreneurship in the Region of the Western Balkans and Turkey*, which was by present day supported by more than 2,000 civil society organizations and social enterprises from the region.

There have been a few valuable attempts of regional cooperation among social entrepreneurs, but there is still the lack of a long term effect due to non-existing wider support. Civil society in the region contributed to the reduction of the aftermaths of economic crisis through the inclusion of growing poverty issues on the agenda, aiding of various marginalized social groups and becoming a significantly visible stakeholder in social policy (Bežovan i Zrinščak, 2007, 286). The importance and the only option in future development of social entrepreneurship can be summed up by the words of Danute Hübner, former European Commissioner for Regional Policy and a member of European Parliament: "...there are challenges in this part of Europe which exist nowhere else on our continent and this makes it all the more important that we can work together effectively on their solutions"<sup>7</sup>. With that in mind, we emphasize the necessity for future research to more closely explain and describe the dimensions of social entrepreneurship as a complex social process and phenomenon.

## REFERENCES

- Babović, M., Gjuravska, M., Hoxha, J., Janković, A., Petričević, T., Rakin, D., Šarić, Dž., Tafharshiku, A., Vidović, D. (2015): *Strategic Study on Social Economy Development in the Context of the South East Europe 2020 Strategy*, Belgrade: European Movement in Serbia.
- Baturina, D. (2013): *Konceptualiziranje socijalnog poduzetništva i izazovi razvoja područja*, Ekonomska misao i praksa, Vol. 1, No.1, pp. 123-142.
- Bežovan, G., Zrinščak, S. (2007): *Civilno društvo u Hrvatskoj*, Zagreb: Naklada Jesenski i Turk, Hrvatsko sociološko društvo.

---

<sup>7</sup> <http://www.southeast-europe.net/en/other/mainpage> (10 April 2016)

Bežovan, G. (2008): *Civilno društvo i kombinirana socijalna politika*, In: Puljiz, V., Bežovan, G., Matković, T., Šučur, Z., Zrinščak, S. (eds.), *Socijalna politika Hrvatske* (pp. 391-436), Zagreb: Pravni fakultet.

Čengić, D. (2008): *Hrvatski izvoz kao istraživački problem: dominantni pristupi i rezultati dosadašnjih analiza*, In: Čengić, D. (ed.), *Poduzeća, rast i izvoz. Socioekonomska anatomija hrvatskog izvoznog uzmaca* (pp. 9-41), Zagreb: Institut društvenih znanosti Ivo Pilar.

Croatian Youth Network (2016): *O nama*. Available at: <http://www.mmh.hr/hr/info/o-nama-1> , (accessed 2 April 2016).

European Commission (2016a): *Social economy in the EU*. Available at: [http://ec.europa.eu/growth/sectors/social-economy/index\\_en.htm](http://ec.europa.eu/growth/sectors/social-economy/index_en.htm), (accessed 2 April 2016)

European Commission (2016b): *A map of social enterprises and their eco-systems in Europe*, Brussels: Directorate-General for Employment, Social Affairs and Inclusion.

Eurostat (2016): *Unemployment statistics*. Available at: [http://ec.europa.eu/eurostat/statistics-explained/index.php/Unemployment\\_statistics](http://ec.europa.eu/eurostat/statistics-explained/index.php/Unemployment_statistics), (accessed 2 April 2016)

Government of the Republic of Croatia (2012): *Nacionalna strategija stvaranja poticajnog okruženja za razvoj civilnoga društva od 2012. do 2016. godine*. Available at: [www.krila.hr/UserDocsImages/Nacionalna%20strategija%20FINAL.pdf](http://www.krila.hr/UserDocsImages/Nacionalna%20strategija%20FINAL.pdf), (accessed 2 April 2016).

Government of the Republic of Croatia (2015): *Strategija razvoja društvenog poduzetništva u Republici Hrvatskoj za razdoblje od 2015. do 2020. godine*. Available at: <http://mladi-eu.hr/wp-content/uploads/2015/07/Strategija-razvoj-drustvenog-poduzetnistva.pdf>, (accessed 2 April 2016).

INSTAT (2013) *Shqipëria: trendi i varfërisë 2002-2005-2008-2012*. Available at: [http://www.instat.gov.al/media/206688/shqiperi-trendi\\_i\\_varferise\\_2012\\_.pdf](http://www.instat.gov.al/media/206688/shqiperi-trendi_i_varferise_2012_.pdf), (accessed 2 April 2016)

ISTAT (2009): *Italy in Figures 2009*. Roma: ISTAT.

Ivanković Knežević, K., Miličević, F., Sesar, I., Leonhardt Brlek, P. (2013): *Social entrepreneurship and other models to secure employment for those most in need (Croatia, 29-30 October 2013), Social Entrepreneurship - Model for Employment of Disadvantaged groups*, Host country report, OSB Publishing, pp. 1-8.

Mašek Tonković, A., Križanović, K. (2012): *Social Entrepreneurship in Croatia – opportunities and challenges*, in: Mašek Tonković, A. (ed.), *Economy of Eastern Croatia – Yesterday, Today, Tomorrow* (pp. 91-97), Osijek: Studio HS internet d.o.o., Sveučilište Josipa Jurja Strossmayera u Osijeku, Ekonomski fakultet u Osijeku.

Monzon, J.L., Chaves, R. (2008): *The European Social Economy: Concept and dimensions of the third sector*, *Annals of Public and Cooperative Economics*, Vol. 79, No. 3-4, pp. 549-577.

Narodne novine (2011): *Cooperatives Act*. Available at: <http://www.zakon.hr/z/458/Zakon-o-zadrugama>, (accessed 2 April 2016).

Ninković-Papić, R. (2012): *Assessment Report on Social Entrepreneurship in Bosnia and Herzegovina*, Sarajevo: Social Inclusion Foundation in Bosnia and Herzegovina.

Odak Krasić, S., Šaravanja, I. (2015): *Socijalno poduzetništvo u Republici Hrvatskoj kao način financiranja djelovanja udruga*, Obrazovanje za poduzetništvo – znanstveno stručni časopis o obrazovanju za poduzetništvo, Vol. 5, No. 2, pp. 115-131.

OECD (1999): *Policy Brief on Social Entrepreneurship – Entrepreneurial Activities in Europe*, Luxemburg: Publications Office of the European Union.

Petričević, T. (2012): *Zakonodavni i institucionalni okvir za razvoj društvenog poduzetništva u Jugoistočnoj Europi*, Čakovec: CEDRA.

Puljiz, V., Bežovan, G., Matković, T., Šućur, Z., Zrinščak, S. (2008): *Socijalna politika Hrvatske*, Zagreb: Pravni fakultet.

Rogić, I. (2008): *Racionalnost i ekonomsko ponašanje*, In: Čengić, D. (ed.), Poduzeća, rast i izvoz. Socioekonomska anatomija hrvatskog izvoznog uzmaca (pp. 41-67), Zagreb: Institut društvenih znanosti Ivo Pilar.

Spear, R. (2014): *Socijalno poduzetništvo i drugi modeli zapošljavanja za najpotrebitije*, European Commission: Directorate General for Employment, Social Affairs and Inclusion.

Spreckley, F. (2012): *Priručnik za planiranje društvenog poduzeća*, CEDRA Čakovec/British Council: Čakovec/Zagreb

Šimleša, D., Đudak, J., Majetić, F., Bušljeta Tonković., A. (2015a): *Mapiranje novih obzora. Izvještaj o stanju društvenog poduzetništva u Hrvatskoj 2015*, Zagreb: Institut društvenih znanosti Ivo Pilar.

Šimleša, D., Đudak, J., Majetić, F., Bušljeta Tonković., A. (2015a): *Preko granica. Društvena ekonomija u Europi*, Zagreb: Institut društvenih znanosti Ivo Pilar.

Terjesen, S., Lepoutre, J., Justo, R., Bosma, N. (2011): *Global Entrepreneurship Monitor Report on Social Entrepreneurship Executive Summary*, GERA.

Vidović, D. (2012): *Social Entrepreneurship in Croatia*, PhD thesis. Zagreb: Faculty of Humanities and Social Sciences, University of Zagreb.

Vincetić, V., Babić, Z., Baturina, D. (2013): *Definiranje područja i potencijal razvoja socijalnog poduzetništva Hrvatske u komparativnom kontekstu*, Ekonomski pregled, Vol. 64, No.3, pp. 256-278.

World Bank (2014): *World Development Indicators: Distribution of income or consumption*, Available at: <http://wdi.worldbank.org/table/2.9>, (accessed 4 April 2016).

Ymeraj, A. (2007): *Outcomes of the Transition in Albania*, in Deacon, B. And Stubbs, P., ed.: Social Policy and International Interventions in South East Europe, Northampton: Edward Elgar Publishing, pp. 187-202.

Zrilić, N., Širola, D. (2014): *Socijalno poduzetništvo – nova mogućnost zapošljavanja mladih u Hrvatskoj*, Zbornik Veleučilišta u Rijeci, Vol. 2, No. 1, pp. 59-76.



Županov, J. (2002): *Od komunističkog pakla do divljeg kapitalizma. Odabrane rasprave i eseji 1995.-2001.*, Zagreb: Hrvatska Sveučilišna naklada.

**Putzer, Petra, PhD**

University of Pécs Faculty of Business and Economics  
7622 Pécs, Rákóczi str. 80.  
Phone: +36 72/501-599/23129 Fax: +36 72/501-553  
E-mail address:putzerp@ktk.pte.hu

**Bedó, Zsolt, PhD**

University of Pécs Faculty of Business and Economics  
7622 Pécs, Rákóczi str. 80.  
Phone: +36 72/501-599/23436 Fax: +36 72/501-553  
E-mail address:zsoltbedo@ktk.pte.hu

**CSR - A NEW MARKETING TOOL FOR THE MULTINATIONAL AND BIG COMPANIES OR OPPORTUNITY FOR SOCIAL ENTREPRENEURS?****DOP – NOVO MARKETIŃŠKO SREDSTVO MULTINACIONALNIH I VELIKIH TVRTKI ILI MOGUĆNOST DRUŠTVENIM PODUZETNICIMA?****ABSTRACT**

*This study tries to identify the relationship between the CSR of Hungarian companies and the social entrepreneurs based on literature review as secondary research and questionnaire as primary research. Why is corporate social responsibility (CSR) essential nowadays? More and more companies recognise that environmental responsibility is a value, but the current CSR practices are much diversified. There are many companies which CSR as only a communication tool and carry out less expensive responsible actions, while one part of the companies is making way to real CSR based on niche strategy. The companies have recognised that CSR could be a value for different stakeholders, but the CSR activities are varied from shallow CSR actions like sponsorship to the real responsibility like supporting social entrepreneurs.*

*The aim of our study is to define the opportunities of CSR as social entrepreneur. Social entrepreneurs can be identified as the real, “deep” CSR and they can be a part of CSR activities of multinational companies. We reached 101 company respondents with stratified sampling. In the study we introduce the motives and practices of CSR based on empirical results. This study also analyses the attitudes of companies toward CSR, the Hungarian CSR practices and the possible effects of CSR on the future of social entrepreneurs. The conclusions of our research help to forecast the spread of CSR. If the companies recognise this responsible value and are willing to accept this innovative solution, it can also help for social entrepreneurs to create value for the society. If they do not recognise this value, CSR will be just a new marketing tool for multinational companies.*

**Key words:** CSR, responsibility, social entrepreneur, SMEs

**SAŽETAK**

*U radu se uz pomoć pregleda literature kao sekundarnog, te upitnika kao primarnog istraživanja identificira odnos DOP-a mađarskih tvrtki i socijalnih poduzetnika. Iz kojeg razloga je društveno odgovorno poslovanje (DOP) bitno danas? Sve više poduzetnika prepoznaje da je odgovorno*

*ponašanje prema okolišu vrijenost, no trenutna DOP praksa je raznolika. Postoje tvrtke koje koriste DOP kao komunikacijsko sredstvo i realiziraju jeftinije DOP aktivnosti, dok dio ovih izvodi vrstu pravog DOP-a na osnovi niche strategije. Tvrtke su prepoznale da DOP može značiti vrijednost stakeholderima, ali DOP djelatnosti se razlikuju: od površnih DOP akcija, kao što je sponzoracija, do prave odgovornosti kao potpora socijalnih poduzetnika.*

*Cilj rada je odrediti DOP mogućnosti društvenih poduzetnika. Socijalni poduzetnici se mogu identificirati kao pravo, „duboko“ DOP te mogu biti dijelovi DOP aktivnosti multinacionalnih tvrtki. Odgovori 101 tvrtki su bila istražena kao stratificirani uzorak. U radu se predstavljaju motivi i praksa na osnovi empirijskog istraživanja. Uz to se u radu analiziraju statovi tvrtki prema DOP-u, mađarski DOP aktivnosti i mogući učinci DOP-a na budućnost socijalnih poduzetnika. Konkluzije našega istraživanja potpomažu prognozu proširenja DOP-a. Ukoliko tvrtke prepoznaju ovu vrijednost odgovornosti te ako su spremni prihvatiti ovo inovativno rješenje, istovremeno mogu pomoći socijalnim poduzetnicima da stvore vrijednost društvu. A ako ga pak ne priznaju, DOP će ostati samo novo marketinško sredstvo multinacionalnih tvrtki.*

***Ključne riječi:*** DOP, odgovornost, društveni poduzetnik, MSP

## **1. Introduction**

CSR (Corporate Social Responsibility) is a very popular marketing tool nowadays. More and more companies recognise that social responsibility is a value, but the current CSR practices are much diversified. There are many companies which CSR activities are only communication tools and carry out less expensive responsible actions, while one part of the companies is making way to real CSR based on niche strategy. The Hungarian companies also have recognised that CSR could be a value for different stakeholders, but the CSR activities are varied.

According to different literatures the origin of CSR can be the Kotler and Levy's broadening domain of marketing, the wider definition of marketing, which means that "a pervasive societal activity that goes considerably beyond the selling of toothpaste, soap and steel" (Kotler-Levy 1969, 10). After this study Kotler and Zaltman (1971) showed that different social organisations can apply marketing concepts and techniques as effectively as the business companies in order to the promotion of social objectives such as brotherhood, safe driving and family planning. That was the foundation of social or societal marketing concept and thought which was discussed in different forms and from different perspectives by many authors (Schoell-Guiltinan 1988, Berkowitz et al. 1989, Kotler-Bliemel 1991, Kotler-Armstrong 2004, Kotler-Keller 2006, 2012).

During a long period CSR had been the part of this societal marketing concept, but nowadays the two concepts have been separating from each other. The CSR concept is connected to the business companies that can help the society with different social actions like sponsorship, cause related marketing etc. The social or societal marketing concept is usually connected to non-profit organisations that try to change the behaviour or attitude of the society, e.g. become eco-friendly, use less water or electricity or recycle paper and plastic. This separation is showed by the different studies of Kotler and Lee (2007, 2008).

Our study defines the results of the empirical CSR research - we reached 101 company respondents with stratified sampling – are relevant in the case of the social entrepreneurs. We analyse the empirical results of our research and after we show the link between CSR and social entrepreneurship. The conclusions of our research help to forecast the spread of CSR and social entrepreneurship. If the companies recognise this responsible value and are willing to accept this innovative solution, the proportion of real CSR actions can grow. The spread of CSR can also help social entrepreneurs to reach their goal which is a real responsibility.

## 2. The levels and motives of CSR

Why do companies take responsibility? Many studies deal with the best CSR strategies, motivations and the advantages of CSR. The early definitions of CSR indicated that social responsibility was just a reaction for the external pressure by different stakeholders and not a voluntary action (Sethi 1975, Epstein 1987, Frederick 1994). Friedman (1970) had more radical viewpoint, he argued for the impossibility of CSR concept, because as he wrote the one and only obligation of business is to maximize its profit while engaging in open and free competition without deception or fraud. According to Friedman the responsible company tries to maximize its profit with observing the legal rules.

Since Carroll's pyramid CSR has become multidimensional concept (see Blomqvist-Posner 1994, Carroll-Shabana 2010, Kotler-Keller 2012). According to Carroll (1991) CSR has four levels: economic responsibilities (good profitability, maximizing earnings per share), legal responsibilities (complying with various legal regulations), ethical responsibilities (ethical behaviour) and philanthropic responsibilities, which means to have respect for stakeholders and be a good corporate citizen. This fourth level can be deemed as the real CSR.

Although CSR seems like a voluntary and selfless function, companies usually expect some benefits from these activities. It could be a stronger brand, better corporate image, growing sales and market share, lower operational costs, recovering financial statements, permanent competitive advantage or favourable effects on stakeholders (e.g. employees, authorities, customers, business partners) (Kotler-Lee 2005, Ligeti 2007, Kun 2009, Matolay 2010, Carroll-Shabana 2010, Mullerat, 2010). Orosdy (2006) deals with green or eco-marketing, which can be deemed as special part of CSR, thus the statements of Orosdy's study can be generalized. According to Orosdy the appearance of green or eco-marketing has four reasons: it could be a real market segment (e.g. LOHAS consumer group), it could serve PR purposes, it could be a rational and conscious follow-up of ecological expectations (e.g. substitution of traditional bulbs with energy savings bulbs) and it is also imaginable that the company is an "unselfish/altruist capitalist", i.e. the company is aware of protecting nature and social welfare.

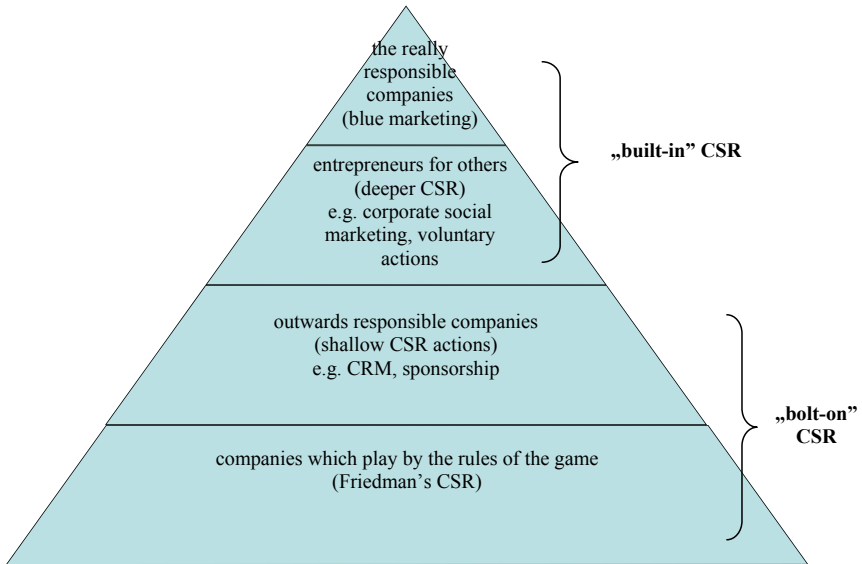
Carroll's pyramid (Carroll 1991) and Putzer's pyramid (Putzer 2011) also show these different reasons. Putzer (2011) also classifies four levels of CSR on the basis of different literatures (e.g. McAdam 1973, Ackerman 1973, Sethi 1975, Enderle-Tavis 1998, Zadek 2004, Blomqvist-Posner 2004; Wolff-Barth 2005, Kotler-Lee 2005, Tóth 2007, Mullerat 2010, Deák 2011, Urbán-Szabó 2011, Öberseder et al. 2013) into a pyramid according to Carroll multidimensional approach and Tóth's (2007) pyramid. As *Figure 1* shows at the bottom of the pyramid there are companies which play by the rules of the game, but they do not carry out social responsible actions. In fact it is Friedman's CSR conception (Friedman 1970) and it integrates Carroll's first two levels, the economic and legal responsibilities. At the second level the companies typically use CSR as a communication tool; we can find many green-washing or white-washing actions on this level. Therefore this level can be called the level of outwards responsible companies. The first two levels mean that there is no change in the life of the companies, they do business as usual they maximum give money to charities or use CSR as marketing tool, so these CSR types can be called "bolt-on" CSR (Wolff-Barth 2005).

On the third level the companies integrate CSR in other divisions (e.g. production, pricing), so CSR is a part of the DNA of the company. These companies can be called as "entrepreneurs for others". At the top of the pyramid there are "the really responsible companies", the DNA of these companies and the corporate philosophy and the business idea are based on responsibility. Therefore the third and the fourth level can be called as "built-in" CSR (Wolff-Barth 2005), because the company should change its processes.

Any pyramid is chosen, it can be seen that there are different CSR actions from the economic and legal responsibilities to the philanthropic or real responsibilities. One part of the companies is

making way to real CSR (really responsible companies, entrepreneurs also for others), but other part of the companies (outwards responsible companies) use CSR as only a communication tool for improving image, growing sales etc., furthermore there are also companies which obey laws, but operate without CSR. What kind of CSR is typical in the Hungarian market? What determines which CSR can appear in Hungary? How can social entrepreneurs take advantage of CSR?

**Figure 1** Pyramid of the levels of CSR



Source: Putzer (2011) p. 46

### 3. Results of the empirical research: the motivations of CSR

Our research was conducted in 2014 in Hungary with the aim of revealing the CSR practices, attitudes and motives in Hungary. The research is not representative, but we reached 101 business respondents, so because of the relative big sample the results can play important role in the analysis of the Hungarian CSR situation.

#### 3.1 Research objective and methodology

The conducted exploratory empirical research consists of two main parts. Firstly we focused on secondary research using literature review with the aim to reveal the characteristics of the Hungarian CSR and we analysed CSR reports of Hungarian firms. On the basis of the secondary research we tried to determine what CSR activities could evolve and we also conducted a primary research. As quantitative technique we compiled a CATI questionnaire. The objective of this part of the research was to reveal companies attitudes, opinions and habits in connection with taking social responsibility. The main topics of the survey covered the following fields: characteristics of companies, interpretation of CSR, motivations of CSR, responsible actions and the supported

causes. We reached 101 respondents with using strong selection criteria. Firstly we used the list of CSR Hungary and KÖVET (Hungarian association for sustainable economy) and created the list of potential companies and we constructed a filter question (Did you hear about corporate social responsibility?) in order to determine if they are qualified or experienced enough to answer a subsequent one. If the answer was no, we ended the interview. We asked employees who deal with CSR at the company, that means in the case of SMEs we usually talked with the CEO or general marketing managers, but in the case of big or multinational companies we usually found a person who was responsible for CSR activity of the company. This implies that our quantitative part of research is not representative for the given population. We used SPSS statistics software to analyse data and relied mainly on descriptive statistics and crosstabs.

### 3.2. Initiatives of CSR and attitudes of Hungarian companies

Because of the limitation of the guideline in this study we just summarize the results of the primary research connected to the motivations of CSR and attitudes toward CSR. We measured motives with Likert scale from 1 to 5 where 1 – it is not reason, 5 – it is a very important reason. The results (see *Table 1*) indicate that the most important incentives are connected to communication (image-4.01, communication value-3.89, stronger brand-3.44, better good-will-3.39, customer satisfaction-3.30). This result shows the strong profit orientation of the companies. The Hungarian companies want to take advantage from CSR activity, the altruism which can be found in the most CSR definition is not a real reason.

On the 6<sup>th</sup>, 7<sup>th</sup> and 8<sup>th</sup> place there are also different benefits and after these appear the real responsible reason, the altruism as the 9<sup>th</sup> most important motive (3.06). Based on the results in general the Hungarian companies are not lead by altruism, they are led by some positive effect on their profit. But the Hungarian corporations do not feel that CSR would be a real competitive advantage (2.80), they do not want to take direct financial advantage (2.71) and it is not an aim to reduce operational costs (2.61).

This means that the Hungarian companies expect some kind of benefit from CSR activity, and this benefit is the main motivator and not altruism, but the advantages usually have indirect effect on profitability which comes from the communication of responsibility. In Hungary the firms do not see CSR as the basis of competitive advantage that could increase their profit directly.

This result indicates that companies will stay at the bottom, probably on the 2<sup>nd</sup> level of the pyramid and carry out bolt-on CSR activities which are cheaper, and they will not change their processes. But the real responsibility can appear because there is a small group of firms that is led by altruism and taking care of society.

**Table 1** Most important initiatives of CSR

	N	Mean	Std Deviation
better corporate image	100	4,01	1,040
communication value	99	3,89	1,009
stronger brand position	101	3,44	1,268
favourable effects on investors and financial markets ( better good-will)	101	3,39	1,280
higher level of customer satisfaction	100	3,30	1,142
favourable effects on parent company and shareholders	91	3,23	1,342
favourable effects on government and authorities	101	3,14	1,319
higher level of employee satisfaction	101	3,14	1,225

	N	Mean	Std Deviation
no economic aim, just altruism	101	3,06	1,302
real competitive advantage	101	2,80	1,183
financial benefits (e.g. higher market share, income, tax release)	101	2,71	1,219
lower operational costs	100	2,61	1,197

Source: Authors

These results showed that there are some important categories of motivations like communication, altruism, competitive advantage. To confirm this assumption we conducted a factor analysis. The result of factor analysis (see *Table 2*) shows four major motivating variables: advertising value of CSR, charming stakeholders, financial benefits and altruism.

**Table 2** The rotated component matrix of the factor analysis

	Component			
	1	2	3	4
no economic aim, just altruism	-0.016	-0.071	-0.140	<b>0.936</b>
financial benefits (e.g. higher market share, income, tax release)	0.160	0.169	<b>0.889</b>	0.191
higher level of employee satisfaction	<b>0.711</b>	0.068	0.072	0.126
stronger brand position	<b>0.813</b>	0.263	0.117	-0.103
better corporate image	<b>0.816</b>	0.301	-0.054	0.131
communication value	<b>0.803</b>	0.265	0.231	0.020
lower operational costs	0.022	<b>0.746</b>	0.392	-0.009
favourable effects on investors and financial markets (better good-will)	<b>0.539</b>	<b>0.484</b>	0.247	0.106
favourable effects on government and authorities	0.287	<b>0.614</b>	0.388	-0.070
real competitive advantage	0.266	<b>0.714</b>	-0.009	0.240
higher level of customer satisfaction	0.408	<b>0.739</b>	-0.040	0.055
favourable effects on parent company and shareholders	0.369	<b>0.514</b>	0.071	0.448

Source: Authors

The first factor contains reasons connected to communication, like stronger brand and image, promotion value, better good-will and higher employee satisfaction), so it can be called as “advertising value of CSR” which covers the internal and external communication and PR value of CSR. The second factor confirms the stakeholder theory, because the elements of this factor are connected to gaining the different stakeholders (customers, authorities, government, investors, parent company, shareholders) over completed with lower operational costs and competitive advantage. So the second factor is the “charming the stakeholders”. The last two factors have only one benefit, so the third factor is the “financial benefits” and the fourth is “altruism”.

We measured the participants’ attitude toward CSR with statement agreement using Likert scale from 1 to 5, where 1 was totally disagree, 5 was totally agree. The Hungarian companies are pessimists because they feel that the many companies are just promoting themselves as responsible company, and they carry out shallow CSR actions, CSR is some kind of communication tool (3.73), the most important reason of CSR is the advertising value (3.58). The respondents do not think that there are lots of really responsible companies in Hungary (2.84), because firms do CSR action as reaction on pressure from the government and because of legal acts (3.52). The participants regard CSR as external pressure, something that should be done (3.16), while the firms feel that they have to meet only the ethical and legal requirements (3.11). CSR is not a real

competitive advantage (3.11), but the customers have been evaluating the CSR actions (3.34). But it is enough if the companies carry out shallow CSR activities. But it is a good news for the society that the respondents think that CSR not just a temporary fashionable tool (CSR is just a temporary fashionable tool.-2.40).

In this manner we can draw the conclusion that many firms recognize the necessity of CSR, but they realize also that only the CSR activity not sufficient for success. Hungarian companies must carry out social actions, but until the customers will not evaluate the real CSR actions, the really responsible CSR types will not spread. Without external pressure the companies will stay at the bottom of the CSR pyramid and create bolt-on CSR solutions.

#### **4. Social entrepreneurs and CSR**

Social entrepreneurs are new generation of business ventures and can be instrumental in CSR. Why? First we should define the term, social entrepreneur. Chell et al. (2010) define social entrepreneurship as an innovative activity with social objective in either the for-profit, the CSR, or the non-profit sector. In a former study Chell (2007) gave more general definition. According to this, social entrepreneurs carry out activities with social mission, objective and value. Di Domenico et al. (2010) also focus on social objective with financial sustainability in their concept.

So social entrepreneurs concentrate on the socioeconomic impacts and present the 'doing well by doing good' in the market system. That means they develop value for their business venture and also stimulate social change through products or services. They try to balance the economic, the social and the environmental value to their company and their stakeholders. (Cholette et al. 2014).

Therefore Nicolopoulou (2014) argues that social entrepreneurship is developing as a (sub)-field of CSR, and her paper has examined the links of social entrepreneurs with CSR. Many start-ups have made CSR as primary mission; they have become CSR-oriented (Cholette et al. 2014). It means that they create for-profit business with social mission, they want to sell real responsible products or services, so they belong to the category of 'really responsible companies', they are on the 4<sup>th</sup> level of the pyramid.

But of course if they have non-profit activity for a social cause, they can be stakeholders and the object of the shallow CSR activities made by the large corporations. So the so called 'outwards responsible companies' can give them support and these companies can take communicational advantage from this. The results of the primary research showed that most popular forms of CSR are the simple, 'money giving' actions without real change inside the company. This can help the concept of social entrepreneurship to spread, so the shallow CSR actions also can create real responsibility through the social entrepreneurs.

#### **5. Conclusion**

Based on our research we can draw up the following conclusions:

- Hungarian corporations have negative attitude toward CSR, they are sceptic and pessimistic, they realized that they have to do something good because of the different stakeholders. They see CSR as something that must be done and as real competitive advantage.
- Hungarian corporations typically carry out shallow CSR actions without changing anything in their processes. They do not take real responsibility which can be read in CSR definitions, but if they support social entrepreneurs with their money, the shallow CSR activity can become real social responsibility.
- There are many CSR-oriented start-ups that have made CSR a priority. It means that the social entrepreneurs can be the basis of real CSR activity, because they apply the 'doing well by doing good' concept and create profit with producing responsible products and services.



## REFERENCES

- Ackerman, R. W. (1973): *How companies respond to social demands*, Harvard Business Review, 51 (4), pp. 88–98
- Berkowitz E. N. - Kerin, R. A. - Rudelius, W. (1989): *Marketing*. 2.ed. Homewood: Irwin
- Blomqvist, K. H. and Posner, S. (2004): *Three strategies for integrating CSR with brand marketing*, Market Leader, 34 (3), pp. 33-36.
- Carroll, A. B. – Shabana, K. M. (2010): *The business case for corporate social responsibility: A review of concepts - Research and practice*. International Journal of Management Reviews, 12 (1), March 2010, pp. 85-105.
- Carroll, A. B. (1991): *The Pyramid of Corporate Social Responsibility*, Business Horizons, 34 (4), pp. 39-48.
- Chell, E. (2007): *Social Enterprise and Entrepreneurship Towards a Convergent Theory of the Entrepreneurial Process*, International Small Business Journal, 25 (1), pp. 3-19.
- Chell, E., Nicolopoulou, K., Karatas-Ozkan (2010): *Social Entrepreneurship: Innovation and Cross-Cultural Aspects*, Entrepreneurship and Regional Development, 22 (6), pp. 485-494
- Cholette, S. – Kleinrichert, D. – Roeder, T. – Sugiyama, K. (2014): *Emerging Social Entrepreneurial CSR Initiatives in Supply Chains*, The Journal of Corporate Citizenship, 55 (September 2014), pp. 40-72.
- Deák Cs. (2011): *Több mint kommunikáció: svéd minta társadalmi felelősség hazai gyakorlatában*, In: Borgulya Á. – Deák Cs. (szerk.): Vállalati kommunikáció a 21. század elején, Miskolc: Z-Press., 89-100
- Di Domenico, M. – Haugh, H. - Tracey, P. (2010): *Social Bricolage: Theorizing Social Value Creation in Social Enterprises*, Entrepreneurship Theory and Practice, 34 (4), pp. 681-703.
- Enderle, G. and Tavis, A. L. (1998): *A balanced concept of the firm and the measurement of its long-term planning and performance*, Journal of Business Ethics, 17 (11), pp. 1129–1143.
- Epstein, E. M. (1987): *The corporate social policy process: Beyond business ethics, corporate social responsibility, and corporate social responsiveness*. California Management Review, 29 (3), Spring 1987, pp. 99-114.
- Frederick, W. C. (1994): *From CSR1 to CSR2 – The maturing of business-and-society thought*. Business & Society, 33 (2), August 1994, pp. 150-164.
- Friedman, M. (1970): *The social responsibility of business is to increase its profits*. The New York Times Magazine, 1970. September 13, pp. 32 – 33, 122 – 126
- Kotler, P. – Armstrong, G. (2004): *Principles of marketing*. Upper Saddle River: Pearson/Prentice Hall
- Kotler, P. – Bliemel, F. W. (1991): *Marketing-Management*, 7. Auflage, Stuttgart: C.E. Poeschel Verlag

- Kotler, P. - Keller, K. L. (2006): *Marketingmenedzsment*. Budapest: Akadémia Kiadó
- Kotler, P. - Keller, K. L. (2012): *Marketingmenedzsment*. Budapest: Akadémia Kiadó
- Kotler, P. - Lee, N. (2005): *Corporate Social Responsibility: Doing the Most Good for Your Company and Your Cause*, Hoboken, New Jersey: Wiley
- Kotler, P. - Lee, N. R. (2007): *Vállalatok társadalmi felelősségvállalása*. Budapest: HVG Kiadó
- Kotler, P. - Lee, N. R. (2008): *Social marketing – Influencing behaviors for good*. 3rd ed., Los Angeles: Sage Publications
- Kotler, P. - Levy, S. J. (1969), *Broadening the concept of marketing*. Journal of Marketing, 33 (1), pp. 10-15.
- Kotler, P. - Zaltman, G. (1971): *Social marketing: An approach to planned social change*. Journal of Marketing, 35 (3), pp. 3-12.
- Kun A. (2009): *A multinacionális vállalatok szociális felelőssége – CSR-alapú önszabályozás kontra (munka)jogi szabályozás*. Budapest: Ad Librum Kft.
- Ligeti Gy. (2007): *CSR: Vállalati felelősségvállalás*. Budapest: Kurt Lewin Alapítvány
- Matolay, R. (2010): *Vállalatok társadalmi felelősségvállalása – Hatékonysági vonzatok*, Vezetéstudomány, 41 (7-8), pp. 43-50.
- McAdam, T. W. (1973): *How to Put Corporate Responsibility into Practice*, Business and Society Review/Innovation, Summer 1973, pp. 8-20
- Mullerat, R. (2010): *International corporate social responsibility – The role of corporations in the economic order of the 21st century*, Austin, Boston [etc.]: Wolters Kluwer
- Nicolopoulou, K. (2014): *Social entrepreneurship between Cross-Currents: Toward a Framework for Theoretical Restructuring of the Field*, Journal of Small Business Management, 52 (4), pp. 678-702.
- Öberseder, M., Schlegelmilch, B. B. and Murphy, P. E. (2013): *CSR practices and consumer perceptions*, Journal of Business Research, 66 (1), pp. 1839–1851.
- Orosdy B. (2006): *Az ökomarketing három szintje*, Marketing & Menedzsment, 40 (5-6), pp. 19-25.
- Putzer P. (2011): *CSR – Merre tovább?*, Marketing és Menedzsment, 45 (4), pp. 45-52.
- Schoell, W.F. – Guiltinan, J.P. (1988): *Marketing – Contemporary Concepts and Practices*, 3rd ed., Boston, London, Sydney, Toronto: Allyn and Bacon inc.
- Sethi, S. P. (1975): *Dimensions of corporate social performance: An analytic framework*, California Management Review, 17 (3), pp. 58–64.

Tóth G.(2007): *A valóban felelős vállalat*, Budapest: KÖVET

Urbán K. - Szabó K. (2011): *Elkötelezettség a CSR Kiválóságért - egy új eszköz a vállalati felelősségvállalás hatékony fejlesztéséhez*, Magyar Minőség, 20 (9), pp. 7-16

Wolff, F. – Barth, R. (2005): *Corporate Social Responsibility: Integrating a business and societal governance perspective*. The RARE project's approach, [http://www.rare-eu.net/fileadmin/user\\_upload/documents/RARE\\_Background\\_Paper.pdf](http://www.rare-eu.net/fileadmin/user_upload/documents/RARE_Background_Paper.pdf), retrieval date: 05. 08. 2013

Zadek, S. (2004): *The path to the corporate responsibility*. Harvard Business Review, 82 (12), pp. 125-132.

**Milan Stanić, univ. spec. oec.**

College of Slavonski Brod

Dr. Mile Budaka 1

Phone: 091/4928038 Fax: 035/492804

E-mail address: milan.stanic@vusb.hr

**Andreja Katolik Kovačević, mag. oec.**

College of Slavonski Brod

Dr. Mile Budaka 1

Phone: 091/4928032 Fax: 035/492804

E-mail address: andreja.katolik@vusb.hr

**Ivona Blažević, mag. oec.**

College of Slavonski Brod

Dr. Mile Budaka 1

Phone: 091/4928041 Fax: 035/492804

E-mail address: ivona.blazevic@vusb.hr

**CORPORATE SOCIAL RESPONSIBILITY ON THE EXAMPLE OF  
SELECTED COMPANIES**

**DRUŠTVENO ODGOVORNO POSLOVANJE NA PRIMJERU ODABRANIH  
PODUZEĆA**

***ABSTRACT***

*Corporate social responsibility is reflected in the example of a company that, over the strictly legal obligations, integrates concern for the environment and society in the decision-making system. Could be said that a successful company is one that consistently takes into account its economic, social and environmental impact, and socially responsible business represents business model and management style in which the profit is realized in a socially responsible manner. The opportunities to participate in the evaluation of socially responsible practices have all companies that are under the criteria of the Zlatna Kuna rated as the most successful in Croatia. Croatian Chamber of Commerce each year invites 2,000 small, medium and large companies that were under the criteria of the Zlatna Kuna in the previous financial period operating positively and are ranked according to business success.*

*It is enough to fill out the questionnaire to participate in the CSR Index. Each year a questionnaire could be fulfilled by the mid-September and in period of at least 45 days, and every invited company will receive their link under which will fulfill the questionnaire. The methodology defines a set of evaluation criteria in six basic areas: economic sustainability, inclusion of CSR in business strategy, working environment, environmental protection, market relations and relations with the community.*

*Merchants of finished products, as intermediaries between consumers and producers, are faced with growing demands regarding corporate social responsibility. They claim that corporate social responsibility is part of the strategic orientation of the company and that has to be integrated into their business.*

*This paper will process example of the business ethics and social responsibility in the business group Auto Hrvatska d.d., Tesco PLC, Metro AG and others. Basing its business on corporate social responsibility, Auto Hrvatska d.d. actively cooperates with sports, cultural and humanitarian*

*subjects in Zagreb and other Croatian cities and cities in Bosnia and Herzegovina and Macedonia, and not only as a reliable business partner, but also as partner of public and civil sector. Tesco PLC emphasizes its role in society as an extension of the main purposes of business, and Metro AG points out that corporate social responsibility is guideline towards sustainable management. The aim of this paper is to determine the relationship between the implementation of CSR in the company's business with pleasure of the final consumer. The authors used the following scientific methods of research: methods of analysis, comparison, induction, deduction, description and classification, as well as the specific methods used for the analysis and ranking of certain parameters.*

**Keywords:** *Corporate social responsibility, economic sustainability, brokers (dealers)*

## SAŽETAK

*O društveno odgovornom poslovanju govori se kada neka tvrtka, iznad strogo zakonom propisanih obaveza, integrira brigu za okoliš i društvo u sustav donošenja odluka. Može se reći da je uspješna ona tvrtka koja ujednačeno vodi računa o svom ekonomskom, društvenom i okolišnom utjecaju, a društveno odgovorno poslovanje predstavlja poslovni model i način upravljanja u kojem se profit ostvaruje na društveno odgovoran način. Mogućnost sudjelovanja u ocjenjivanju društveno odgovornih praksi imaju sva poduzeća koje su prema kriterijima Zlatne kune ocijenjeni kao najuspješniji u Republici Hrvatskoj. Hrvatska gospodarska komora svake godine upućuje poziv na 2.000 malih, srednjih, velikih i javnih tvrtki koje su prema kriterijima Zlatne kune u proteklom financijskom razdoblju poslovale pozitivno i rangirane su prema poslovnoj uspješnosti.*

*Za sudjelovanje u Indeksu DOP-a dovoljno je ispuniti upitnik. Svake godine upitnik je moguće ispunjavati od sredine rujna i u trajanju od minimalno 45 dana, a svako će pozvano poduzeće dobiti svoju poveznicu pod kojom će ispunjavati upitnik. Metodologija definira niz kriterija za ocjenjivanje u šest osnovnih područja: ekonomska održivost, uključenost društveno odgovornog poslovanja u poslovnu strategiju, radna okolina, zaštita okoliša, tržišni odnos i odnosi s zajednicom.*

*Trgovci gotovih proizvoda, kao posrednici između potrošača i proizvođača suočavaju se s rastućim zahtjevima glede društveno odgovornog poslovanja, tvrde da je društveno odgovorno poslovanje dio strateške orijentacije poduzeća i da mora biti integrirano u njihovo poslovanje.*

*U radu će se obraditi primjer poslovne etika i društvena odgovornosti u poslovnoj grupi Auto Hrvatska d. d., te u Tesco PLC, Metro AG i dr. Temeljeći svoj rad na društveno odgovornom poslovanju, Auto Hrvatska d.d. aktivno surađuje sa sportskim, kulturnim i humanitarnim subjektima u Zagrebu i drugim hrvatskim gradovima te gradovima u Bosni i Hercegovini i Makedoniji, i to ne samo kao pouzdan poslovni partner već i partner javnom i civilnom sektoru. Tesco PLC ističe ulogu društva kao produžetak glavne svrhe poslovanja, a Metro AG ističe da je društveno odgovorno poslovanje putokaz ka održivom upravljanju.*

**Ključne riječi:** *Društveno odgovorno poslovanje, ekonomska održivost, posrednici (trgovci)*

## 1. Introduction

Corporate social responsibility is reflected in the example of a company that, over the strictly legal obligations, integrates concern for the environment and society in the decision-making system. Could be said that a successful company is one that consistently takes into account its economic, social and environmental impact, and socially responsible business represents business model and management style in which the profit is realized in a socially responsible manner. Through the review of large enterprises and groups appear to the implementation of socially responsible business really works in practice. Through a Žito Group Ltd. it can be seen the significant progress in caring

for employees, Business Group Auto Hrvatska applies the concept of corporate social responsibility in the most technological work through concepts that reduce fuel consumption, emission of exhaust gas and the development of noise. Wrigley Croatia focused its corporate social responsibility for the benefit of children 9-12 years old, while Tesco as an intermediary between the producer and the final consumer is based on the satisfaction of customer.

## **2. Corporate Social Responsibility**

Corporate social responsibility means that a company, beyond strictly legal obligations, integrates concern for the environment and society in the decision-making system, thus company profits itself ceases to be the only measure of evaluating the success of the company. Successful company is one that consistently takes account of its economic, social and environmental impact, and CSR represents business model and management style in which the profit is realized in a socially responsible manner.

Ordinance on the Implementation of the competition CSR Index regulates the procedures of tendering CSR Index on an annual basis, award categories, the method and conditions for granting awards and the conditions and obligations of economic operators that access the Contest. Ordinance stipulates the functioning of the Commission for quality assessment of questionnaire responses of the CSR Index.

Croatian Chamber of Economy and Croatian Business Council for Sustainable Development are conducting a competition of the CSR Index on an annual basis. According to the Ordinance on the Implementation of the competition of the Index CSR they are conducting indexing as follows:

- According to criteria of Zlatna Kuna, top ranked companies receive a link for accessing the questionnaire for self-evaluation of its business
- The competition opens at the end of the year
- Companies in the contest of the CSR Index participate by filling out a questionnaire consisting of 119 questions grouped into six areas.

Companies that did not fulfill the criteria for the award of Zlatna Kuna can also participate in indexing if they have more than 10 full-time employees and they are operating positively. Companies are grouped by size on small, medium, large and public companies.

CSR questionnaire is composed of questions grouped into six areas: economic sustainability, inclusion of CSR in business strategy, working environment, environmental protection, market relations and relations with the community. Companies are obliged to answer honestly on questions in the questionnaire; the Commission reserves the right to verify the accuracy of the information. The Commission comprises five members who are elected by the Croatian Chamber of Commerce and the Croatian Business Council for Sustainable Development.

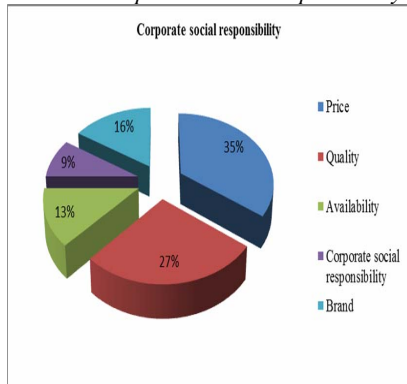
To the Enterprise that has achieved the best result in certain areas of the questionnaire is assigned a special prize:

- Responsible policies and practices in the work environment (all companies)
- Responsible policies and practices of environmental management (all production companies)
- Socially responsible community relations (all companies)

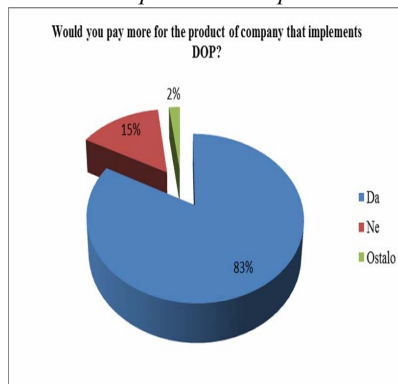
### 3. The importance of corporate social responsibility for consumers

The scale of the importance of corporate social responsibility for the consumer can be seen in the Charts No.1 and No.2.

**Chart 1 Corporate social responsibility**



**Chart 2 Companies that implements CSR**



Source: Made by the author according to <http://www.poslovni.hr/hrvatska/gotovo-polovica-graana-nije-cula-za-drustveno-odgovorno-poslovanje-48109>

According to a survey of the Puls, 83 percent of citizens would pay more expensive product whose manufacturer takes special care of the environment, but only 46 percent of Croats believe that their purchasing and selecting a specific product can have a direct impact on environmental protection. These are the results of research "The impact of socially responsible behavior on consumers behavior" which is conducted the end of June by the Puls agency for the needs of company Holcim Croatia. (Poslovni dnevnik, 2007.)

Consumers are increasingly aware of their power and thus push the boundaries of companies' quality and their products and services. Price of goods and services is not only crucial for the purchase; consumers are now focusing on the quality, availability and corporate social responsibility.

Today, the reigning shall ensure that consumers receive information about the impact of products and services on the environment by using schemes such as eco-labeling, product information, environmental statement, reporting on environmental and information centers for consumers. They should also promote internationally recognized symbols for eco-labeling.

It was believed that the concept of corporate social responsibility was only part of the promotion of large companies; however, CSR has become an aid to companies to plan long-term sustainable business. Corporate social responsibility today is deeply integrated into the business of large economic systems who want to satisfy their end consumers.

### 4. Examples of good practice

#### 4.1. Žito Group

The group, based in Osijek is an example of good practice of conducting socially responsible business in Eastern Croatian.

Žito applies realization of individual potential and affect the quality of life and work through E Rejuvenation program. The program directly improves the general condition of the user - in a

completely natural way of releasing stress and "full battery", so users have more energy for private and business efficiency. (Žito Grupa, 2011.)

The results of that program beneficiaries are receiving are based on the fact that the level of energy that man has influenced his working capacity and quality performance. In an economy based on knowledge, physical work is replaced by the intellectual potential of individuals. The successful results are achieved by those organizations and individuals who can consistently maintain the quality of intelligent work at a high level.

## **4.2. Business Group Auto Hrvatska**

Many aspects of social responsibility, such as the proper and ethical fulfillment and fulfillment of commitments, care for employees, education, low rates of injury in the workplace, standardization of management and work processes are essential for the achievement of the strategic goals of the company. Business group constantly takes care of ethics and social responsibility of business.

Business group Auto Hrvatska in its operation applies the principles of:

1. Regular, conscientious and successful conduct of business and property management
2. Create and maintain good and healthy business environment
3. Wise, brave and thoughtful decision-making
4. Hard agree with the definition of rights and obligations
5. Helpful and selfless participation in the realization of set targets
6. Avoid conflicts and business enemies

Great attention is paid to protecting the environment with the acquisition and sale of new and used vehicles in personal and economic program and after-sales, and special attention is paid to protecting the environment with the implementation of service activities and the construction of new service centers. Increasing energy efficiency is one of the most important measures to reduce costs and environmental impact.

Technological leadership in the field of commercial and passenger vehicles is an essential element in the strategy of the company. (Poslovna grupa Auto Hrvatska, 2015.)

In order to achieve new and better solutions, the company works on concepts that reduce fuel consumption, emission of exhaust gas and the development of noise. Series TGX continuously set the standard for heavy domestic and international transit traffic in the Euro 6 standards and offers an ideal solution for cost-effective and environmentally friendly transit traffic.

Auto Hrvatska considers that the companies must contribute to the development of community, because experience shows that this is a safe way to overall social development.

## **4.3. Wrigley Croatia**

The Wrigley Company started its operations in 1891. Chicago, the Croatian company operates since 1990. The company since its foundation was led by the concept of corporate social responsibility. One of the latest educational campaign "Chew because it means change," which took place in 2015 in more than 15 European countries, was aimed at raising awareness about the importance of dental hygiene and preserving dental health. Orbit separated 5 cents to fund health education activities aimed at children aged 09-12 years. According to their research 50% of children aged 12 years have between one and four cavities. Activities paid off and it was collected 250,000,00kn. Orbit attempts to gather all the professionals working in the area of oral health in order to achieve better results for children in educating and informing. (Šuštnić, 2016., 27.)

Other actions Wrigley Croatia in November last year under the title "For less waste" operates in Croatia for five years continuously. Wrigley encourages responsible disposal of waste in partnership with relevant organizations. The goal was to raise awareness and promote education



programs on prevention. The action included 35 countries. The action is carried out in cooperation with many schools and kindergartens where trained staff with various activities participates in the creation of a cleaner environment and transfer knowledge to the younger generation.

#### 4.4. Tesco PLC

Tesco its role in society sees as an extension of the main purposes of business. The company is based on three things that are creating opportunities improving health and reduce losses of food. Tesco has focused on the implementation of the policy of corporate social responsibility trade, which is reflected in product safety and quality, fair price, data protection and reduced environmental impact through energy management system. (Jurišić, 2016., 46.) Table 1 shows the comparison Tesco with other large competitors in the industry.

**Table 1** Comparison of Tesco PLC with other large competitors in the industry

	Enviroment	Market	Workin conditions	Community
Tesco PLC	+	+	+	+
Metro Ag	+	+	+	+
Aldi	-	-	-	-
Edeka	+	+	+	+

Source: Jurišić, K. (2016.): *DOP tradicionalni dio osnovne djelatnosti vodećih europskih trgovaca*, Progressive No. 156

Corporate social responsibility Tesco PLC is also reflected in their helping the local community by supporting various charities and collecting food.

They state an important role in the community in which they operate and through various forms of responsible business want to contribute to the development of society in its entirety.

#### 5. Conclusion

In the past it was thought that the concept of corporate social responsibility is just a part of the promotion of large companies, however, this concept has become an aid to companies to plan long-term sustainable business. Corporate social responsibility today is deeply integrated into the business of large economic systems who want to satisfy their consumers. The examples from practice proved that the corporate responsibility and growth are not mutually exclusive.

#### REFERENCES

Kotler, P.; Lee, N. (2009.): *DOP Društveno odgovorno poslovanje – Suvremena teorija i najbolja praksa*, M.E.P. d.o.o., Zagreb

Jurišić, K. (2016.): *DOP tradicionalni dio osnovne djelatnosti vodećih europskih trgovaca*, Progressive 156, pp. 46.-49.

Šušteršič D. (2016): *Wrigley društveno odgovornu kampanju “Orbit daruje osmijeh” nastavlja i u 2016.*, Progressive 157, pp. 26.-29.

Žito Grupa d.o.o. (2011.): *Inovativno društvo u Republici Hrvatskoj*, <http://www.erejuvenation.hr/maintworld.pdf> (accessed 02 April 2016)

Poslovna grupa Auto Hrvatska (2014.): *Izještaj o održivom poslovanje*, <http://www.autohrvatska.hr/novosti> (accessed 18 March 2016)

Hrvatska gospodarska komora (2016.): *O projektu indeks DOP-a*, <https://dop.hgk.hr/> (accessed 02 April 2016)

Hrvatska gospodarska komora (2016.): *Pravilnik o provedbi natječaja Indeks DOP-a*, <https://dop.hgk.hr/wp-content/uploads/2014/09/Pravilnik-o-provedbi-natje%C4%8Daja-Indeks-DOP-a.pdf> (accessed 18 March 2016)

Pavić Rogošić, S.: *Društveno odgovorno poslovanje*, <http://www.odraz.hr/media/21845/dop.pdf> (accessed 19 March 2016)

**Umihana Umihanić, MSc.**

Entrepreneurship Development Centre Tuzla

Trg slobode bb, 75 000 Tuzla

E-mail: umihana.umihanic@hotmail.com

**Mirela Omerović, MSc.**

Faculty of Economics, University of Tuzla

Univerzitetska 8, 75 000 Tuzla

E-mail: mirela.omerovic11@gmail.com

**“THE SHARING ECONOMY” –  
CRITICAL EXAMINATION OF INNOVATIVE BUSINESS MODELS  
ENABLED BY INFORMATION TECHNOLOGIES**

**“EKONOMIJA DIJELJENJA” –  
KRITIČKI OSVRT NA INOVATIVNE POSLOVNE MODELE  
POTPOMOŽNUTE INFORMACIONIM TEHNOLOGIJAMA**

***ABSTRACT***

*Information and communication technologies (ICTs) have enabled the rise of innovative business models based on the “collaborative consumption” or the “sharing economy”. The pioneering business model in the field was built around the knowledge sharing (Wikipedia), but the business logic rapidly expanded in other industries resulting in the establishment of similar business models in tourism, mobility, employment, consumption and other industries. The underlining principle of the “sharing economy” is maximized use of resources leading to the improved efficiency and reduced waste. In addition, these business models allow customers to access requested goods at comparatively lower prices resulting in the improved customer satisfaction and hence, very profitable companies. However, these innovative business models are not fully integrated with existing market conditions since they are rarely aligned with the legislative framework and/or labor market policies. As a result, there are meaningful critics of these business models, where the most severe ones are related to the introduction of a non-fair competition and creating insecure job positions.*

*The main aim of the paper is to examine the effects between innovative business models, that based on the principle of “sharing economy” and supported by ICTs, and their external environment, where the external environment is evaluated through well-established PEST tool. Research is undertaken through multiple-case study approach including 10 different innovative business models, allowing the author to make to-certain-extent general conclusions and recommendation. The paper results in the assessment of the integration degree of innovative business models within the external environment and the evaluation of positive and negative effects of implementation of these models for their environment. The major implication of the paper is the proven opinion that principle of “sharing economy” supported by ICT is a paradigm shift in the current economy that will have a power to influence the changing the legislative framework on the global scale.*

**Keywords:** *innovative business model, sharing economy, collaborative consumptions, innovation management, new economy*

## SAŽETAK

*Informacijske i komunikacijske tehnologije (IKT) su omogućile ekspanziju inovacijskih poslovnih modela utemeljenih na "zajedničkoj potrošnji" ili "ekonomiji dijeljenja". Prvi poslovni model ovog tipa se odnosio na princip dijeljenja znanja i informacija (Wikipedia), ali se poslovna logika ubrzo proširila i u druge industrije rezultujući inovativnim poslovnim modelima u domenu turizma, pokretnosti, zapošljavanja i potrošačke robe. Osnovni princip na kojemu počiva "ekonomija dijeljenja" je maksimizacija korištenja resursa što vodi ka poboljšanoj efikasnosti i smanjenom rasipanju sredstava. Pored toga, ovi modeli u pravilu omogućavaju kupcima da pristupe željenim resursima po komparativno nižim cijenama od konkurenata, čime postižu povećano zadovoljstvo kod kupaca i posljedično predstavljaju veoma profitabilne kompanije. Međutim, ovi inovativni modeli nisu u potpunosti integrisani sa postojećim tržišnim uslovima te su često neusklađeni sa postojećim legislativnim i/ili regulacionim okvirima. Kao rezultat, ovi poslovni modeli su često kritizirani, a najznačajnije kritike se odnose na uvođenje neloyalne konkurencije te povećanje opasnosti od uništenja poslovnih mjesta koja su do tada smatrana sigurnim.*

*Osnovni cilj ovog rada ogleda se u istraživanju interakcije inovativnih poslovnih modela koji su utemeljeni na principima "ekonomije dijeljenja" i potpomognuti IT sektorom, sa eksternom poslovnom okolinom, gdje će okolina biti analizirana kroz PEST model. Metode istraživanja uključuju sekundarno istraživanje i višestruku studiju slučaja koja uključuje 10 različitih inovativnih poslovnih modela, što omogućuje određenu generalizaciju zaključaka i preporuka. Rad rezultira u procjeni stepena integracije između posmatranih inovativnih poslovnih modela i eksterne okoline, te definisanje pozitivnih i negativnih utjecaja implementacije ovih modela na okolinu u kojoj posluju. Nadalje, osnovna implikacija rada ogleda se argumentiranim činjenicama da princip "ekonomije dijeljenja" potpomognut IT sektorom predstavlja revolucionarni inovativni princip koji će imati dovoljnu moć da značajno utječe na promjenu legislativnog okvira na globalnom nivou.*

**Ključne riječi:** *inovativni poslovni modeli, ekonomija dijeljenja, zajednička potrošnja, inovacijski menadžment, nove ekonomije*

### 1. Introduction

The sharing economy or collaborative consumption is a new consumption paradigm, which is gaining popularity due to the economic crisis and increased concern for protecting the environment (Tussyadiah, 2015). Moreover, according to Grant (2014, 3), living in the smartphone era in the globalized world has caused people to change the set of values they appreciate. Compared to the past times when people used to appreciate certainty and predictability, people nowadays are open to mobility, changes and challenges. People are comfortable to spend their whole life living in rented apartments, to change several job positions during their career and to live in different countries exposed to mixture of cultures. These people do not get attached to the material resources, and therefore they are easier to accept to share them with others.

Although the concept of sharing is not recent, the concept of the sharing economy is strongly related to the development of Internet technologies. The sharing economy truly appeared with the third phase of Internet development and appearance of the social media. The social media allowed people to freely communicate, exchange information and thereby remove geographic borders between them. Ever since 2001 and Wikipedia as the pioneer of sharing economy business models, this principle has entered into almost every industry and brought high profit margins for their owners. The change of people's mindset in the developed countries supported by technological

innovations has created the fertile ground for the development of business model based on sharing economy.

However, the dark side of the “sharing economy” logic is the acknowledgment that these new businesses have managed to operate outside established regulatory frameworks without governmental permission (Gobble, 2015, 62). Until recently they have justified the legality of their business models saying that «nobody needed a permission to open a Facebook profile», or in the other words that «internet entrepreneurs didn't need licences to proceed, only good ideas» (Gobble, 2015, 64). However, sharing economy is starting to be more and more on the attack of the regulatory bodies in few countries. For example, legislation has been changed in Netherlands so it accounts for Airbnb business model, which proves the power of sharing economy in today's world. Still, in many other countries the issue of integration of “sharing economy” models into the existing legislation and existing economies is very questionable.

## **2. Methodology**

The main aim of the paper is to critically examine the impact of innovative business models based on the sharing economy on their external environment, and to assess its power to adapt the environment to itself. The research method used is the multiple-case study and the sample includes ten different business models across variety of industries. The data will be analyzed using the PEST tool, which will allow the authors to assess the impact of the sharing economy on the macro-environment.

## **3. Literature review – Innovative business models based on the sharing economy**

A business model can be defined as “the content, structure, and governance of transactions designed so as to create value through the exploitation of business opportunities” (Zott & Amit, 2010, 219). It basically describes how the company creates and captures value in the market. According to Teece (2009, 173), the innovative business model can itself be a pathway to competitive advantage if it is sufficiently differentiated and hard to imitate for competitors. When innovating the business model, one has to think about all building elements of business model in order to be able to create a unique value proposition supported by the strong internal infrastructure and effective marketing strategy.

If analyzed from the perspective of Business Model Canvas tool, the major innovation fragment in the business models based on the sharing economy is their value proposition. Most of these business models are organized as an online marketplaces where two parties meet and exchange products or service. The businesses usually make profit out of the provision, subscriptions and advertisements. The key resources needed are the Internet platform, client databases and software enabling the secured payment transactions (Nica & Potcovaru, 2015).

For the purpose of writing the paper, ten different business models have been analyzed and the research resulted in the recognition of some mutual elements in every model. Even though they are very differentiated across industries, the logic behind these business models is quite detectable. The main underlining principles of the successful business model based on the sharing economy include: (1) relying on the Internet technologies, especially smartphone apps, (2) maximizing the utilization of existing resources, (3) trusting to strangers and creating impersonal relationships, and (4) designing the win-win-win deal for all parties included. These principles have ensured that sharing economy business models entered into almost every industry including transportation, tourism, retailing, entertainment, properties, banking, etc. The table 1 shows the overview of ten selected and research companies with the short description of their business models.

**Table 1** The overview of business models included in the sample

Company	Industry	Short description
Uber	Taxi service	Uber connects you to an affordable ride anywhere, anytime. No need to make a reservation. One tap and a friendly driver comes directly to you
Airbnb	Accommodation	Global platform that allows people to rent accommodation at affordable prices.
Turo	Car rental	Turo allows you to rent out the car when you are not using and allows people in need for car to rent it on more affordable rent rate.
TaskRabbit	Employment	TaskRabbit matches freelance labor with local demand, allowing consumers to find immediate help with everyday tasks including cleaning, moving, deliver and handyman work.
Neighborgoods	Maintainance	Neighborgoods allow people to share physical items with other people in the area.
Justpark	Parking	JustPark connects people in need for parking space with people having vacant privately - owned parking spaces in the city.
EatWith	Dining/tourism	EatWith allows you eat cheap with strangers in their homes, allowing you to socialize with hosts and enjoy homemade cuisine.
ShareDesk	Properties	ShareDesk enables individuals and small teams to discover and book shared work spaces under flexible payment terms.
Vayable	Tourism	Vayable allows you to either book a tour with a local expert in cities around the world, or to sign up as a host and earn money showing people a fun local experience.
Lending Club	Banking	Credit marketplace at lower cost than traditional bank loan programs.

*Source: Websites of companies*

The basic value proposition of businesses based on the sharing economy is to create win-win situation by offering “the party A” (customer) to fulfill their need at lower cost and offering “the party B” (service/product provider) to earn some extra money from their underutilized resources, while keeping a portion of profit for itself. In this case, the party “A” pays for the usage of certain resources rather than for the ownership of the resource and this is the main difference compared to traditional industries. On other side, the party “B” capitalize on its underutilized resource that otherwise would remain unused for the certain period of time. For the illustration, the company Turo allows you to rent out (lend) the car when you are not using it and allows people in need for car to rent it (borrow) on more affordable rent rate. Therefore, these models create significant additional value for people involved in these transactions by allowing them to manage their money more effectively and to invest only as little as they have to.

The sharing economy is usually perceived as the “economy of trust” or the “economy of fair deals”, and therefore it is not surprising that it is becoming immensely popular among customers. The attractive value proposition has resulted in high profitability of these businesses with very high potential for growth in the future. According to the research study conducted by PWC, Airbnb, which is a global platform for linking people who rent out and look for cheap accommodation options, has on average 425,000 guests per night, nearly 22% more than Hilton Worldwide and is valued at \$25 billion. Moreover, five-year old Uber operates in more than 250 cities worldwide and is valued at \$41.2 billion (PWC, 2015, 14).

#### **4. Case Study Analysis - The impact of the sharing economy on the macro-environment**

As any other business model, the business models based on sharing economy have to interact with its micro and macro environment and certainly influence it in some way. This part of the paper offers a critical examination of the impact made by these innovative business models on macro-environment. The degree and the nature of this impact will be assessed through PEST framework, the well-established tool developed to analyze the macro-environment.

**Political impact of the sharing economy** – One of the main roles of government in the political system of any country is to promote the general welfare in the country and of the country. Since not being regulated, the sharing economy has been seen as a threat from the perspective of the small businesses that are integrated into existing legal and taxation frameworks. This effectively means that given the fact that the sharing economy is not regulated and often not integrated into tax system, and therefore it is able to make more profit. In order to respond to emerging threat, governments are either (1) changing their regulations – the case from Amsterdam or (2) imposing bans and fines since the company is not obeying the rule of law (Economist, 2013). However, since the impact of the sharing economy is so influential, increasing number of state governments worldwide are reconsidering their legislation in order to account for risks and threats coming from the sharing economy. It can be expected that in few coming years, the sharing economy will be regulated in the same way as any other.

**Economical impact of the sharing economy** – The major economical impact of the sharing economy is reflected through the transformation of the workforce. Due to its nature of being accessible to anyone having the Internet platform, the sharing economy is able to an additional (or primary) revenue source for millions of people. Thereby, it empowers a new class of micro-entrepreneurs who are financially rewarded for sharing their expertise, resources and services (Ernst & Young, 2015, 18). In addition to providing additional income to people, the sharing economy provides workers with more flexibility and autonomy. However, there is also a negative impact of this evolution of work. Since the sharing economy is not regulated, the rights and obligations of the workforce are not considered. These workforce does not pay taxes (which is also a negative political impact), but in the same time they do not receive any benefits such as health insurance, paid vacations and retirement rights. Another economical impact of the sharing economy is reflected through the emergence and development of the circular economy. If the sharing economy would further develop, the people would buy less new resources and use more the existing ones. Thereby, the usage of the existing resources would be maximized and this could negatively impact many industries involved in selling durable products such as home appliances.

**Social impact of the sharing economy** – As already mentioned in the introduction, people mindset in the globalized world is different from the traditional way of thinking. People tend to value less the items in terms of owning them, but rather they are thinking economically about how to get the most of the existing resources. This change in perceived values is actually the major social impact of the sharing economy. The principles of the sharing economy remove the emotional desire to own something and put focus on the practical aspect of the usage (Grant, 2014). Therefore, we can expect to have people who will live the whole life in the rented apartment, who will rent the car only when it is needed, who will prefer to dine with a stranger in his/her home than in the restaurant and who do not mind sleeping over in the foreigner's home. Successful new sharing ventures are likely to shake established industries to the extent that sharing and collaborative consumption result in fewer purchases or facilitate a shift from individual ownership to shared ownership or short-term rental (Boesler, 2013)

**Technological impact of the sharing economy** – The sharing economy is based on the Internet technology, especially on the smartphone apps. However, the two major technological impact caused by the sharing economy are the further development of “the Internet of things” and “the big data trend”. The smartphone apps, which are used to operate the business model, are collecting every second an immense amount of the data about every client. The collected data are valuable and they can be further used to develop the business model, to solve certain social issue or they could be misused in terms of clients' privacy. Since the issue of private data is very sensible, the government, non-government organization and other institution should set the terms about data management on the global level in order to prevent the misuse of them (Slee, 2015)

## 5. Conclusion

The main aim of the paper was to critically examine the impact of innovative business models based on the sharing economy on their external environment, and to assess its power to adapt the environment to itself.

Using the sample of ten innovative business models from different industries and analyzing the impact of these models on the external environment through the PEST analysis, it has been found that one of the major impacts of the sharing economy is its net effect on the community. More precisely, it is unclear whether the sharing economy is bringing more wage-earning opportunities to more people, or its net effect is the displacement of traditionally secure jobs and the creation of a land of part-time, low-paid work (Pen & Wihbey, 2015). Additionally, the PEST analysis clearly pointed out that state governments should put additional efforts to regulate the sharing economy including taxes, labor rights and data protection. Without these regulations, all benefits created by the idea and principles of sharing economy will be weakened by the negative consequences created.

All things considered, it can be concluded that the sharing economy has a power to change the current way of doing business and that has already shaken up many traditional industries. Nonetheless, the digital revolution is still in its infancy and is certain to bring further dramatic changes in the future. (Belk, 2014, 1595). Therefore, it can be said that the sharing economy is a paradigm shift in the current global economy that will have a power to influence the change of the legislative framework on the global scale.

## REFERENCE

- Boesler, M. (2013): *The rise of the renting and sharing economy could have catastrophic ripple effects* in Business Insider. <http://www.businessinsider.com/rise-of-%20the-renting-and-sharing-economy-2013-8?op=1> , (accessed September 23, 2013)
- Economist (2013): *All eyes on the sharing economy*. <http://www.economist.com/news/technology-quarterly/21572914-collaborative-consumption-technology-makes-it-easier-people-rent-items> (accessed 10 March 2016).
- Ernst & Young (2015): *The rise of the sharing economy*. Ernst & Young LLP.
- Grant, G.M. (2014): *Rent Sweet Rent*. New York Times.
- Martin, C.J. (2016): *The sharing economy: A pathway to sustainability or a nightmarish form of neoliberal capitalism?* Ecological Economics, Vol.121, pp. 149-59.
- Nica, E. & Potcovaru, A.-M. (2015): *The Social Sustainability of the Sharing Economy*. *Economics, Management, and Financial Markets* , Vol. 10, No. 4, pp .69-75.
- Pen, J. & Wihbey, J. (2015): *Uber, Airbnb and consequences of the sharing economy: Research roundup* [http://journalistsresource.org/studies/economics/business/airbnb-lyft-uber-bike-share-sharing-economy-research-roundup\\_](http://journalistsresource.org/studies/economics/business/airbnb-lyft-uber-bike-share-sharing-economy-research-roundup_) (Accessed 10 March 2016).
- PWC (2015): *The Sharing Economy*. PWC.
- Slee, T. (2015): *The Sharing Economy's Dirty Laundry*. Available at: <https://www.jacobinmag.com/2016/03/uber-airbnb-sharing-economy-housing-tech/> (Accessed 10 April 2016).



Teece, D.J. (2010): *Business Models, Business Strategy and Innovation*. Long Range Planning, Vol. 43, pp.172-94.

Tussyadiah, I. (2015): *An exploratory on drivers and deterrents of collaborative consumption in travel*. in I. Tussyadiah, & A. Inversini (Eds.), *Information & Communication Technologies in Tourism 2015*. Switzerland: Springer International Publishing.

**Maja Vretenar Cobović, Ph. D.**

College of Slavonski Brod

Dr. Mile Budaka 1, 35000 Slavonski Brod

Phone: +385914928019

E-mail address: Maja.VretenarCobovic@vusb.hr

**Mirko Cobović, Ph. D. Student**

College of Slavonski Brod

Dr. Mile Budaka 1, 35000 Slavonski Brod

Phone: +385914928017

E-mail address: Mirko.Cobovic@vusb.hr

## **SUSTAINABILITY OF PENSION INSURANCE SYSTEM IN REPUBLIC OF CROATIA**

### **ODRŽIVOST SUSTAVA MIROVINSKOG OSIGURANJA U REPUBLICI HRVATSKOJ**

#### ***ABSTRACT***

*The pension system is very important in the context of social security of every individual or the society in which it is located. Its financing is one of the main factors that determines the standard of living for every pensioner and their financial and social security. Therefore, the level of rights that can be achieved in the pension insurance system directly depends on the capabilities of its funding. Maintaining the stability of the pension system is one of the fundamental problems, both for Croatia and for other EU member states.*

*In the world, the pension systems consist of several subsystems defined with respect to the categories of beneficiaries, method of financing, distribution of pensions etc. Therefore, pension systems can be public or private and mandatory or voluntary. The fundamental division of pension systems is on the public pension system of intergenerational solidarity, which are funded by contributions paid employees and capitalized pension systems that are funded by contributions to the capitalized pension funds. Because each of the models of financing pension insurance has its advantages and disadvantages, today the most used mixed funding models in which instead of one there is a system with multiple pension pillars. Mixed system of financing pensions on the three pillars of insurance was established in Croatia after the pension reform of 2002. But despite the reforms, today's pension insurance system in Croatia has significant problems that complicate the effective functioning.*

*The aim of this paper is to analyse the efficiency and sustainability of the existing pension system in Croatia and the identification of key parameters which determine its further development. The authors with comparative analysis of the pension system in Croatia with the pension system in Slovenia and Switzerland are investigating certain variables important for the sustainability of this insurance in Croatia, and proposals for the upgrade of the existing system and the development of a new financing model to current and future pensioners have better financial and social security. They use a series of scientific research methods (methods of analysis, comparison, induction, deduction, description, classification etc.) as well as certain statistical and mathematical methods used for the analysis and ranking of certain parameters.*

**Key words:** *The pension system, financing, sustainability, pension reform, Croatia*

## SAŽETAK

*Sustav mirovinskog osiguranja vrlo je važan u okviru socijalne sigurnosti svakog pojedinca, odnosno društva u kojem se nalazi. Njegovo financiranje jedan je od temeljnih čimbenika koji određuje životni standard svakog umirovljenika te njihovu financijsku i socijalnu sigurnost. Stoga i razina prava koju je moguće ostvariti u sustavu mirovinskog osiguranja direktno ovisi o mogućnostima njegovog financiranja. Održavanje stabilnosti sustava mirovinskog osiguranja danas je jedan od temeljnih problema, kako za Hrvatsku tako i za ostale zemlje članice Europske unije.*

*U svijetu mirovinski se sustavi sastoje od nekoliko podsustava definiranih s obzirom na kategorije osiguranika, način financiranja, raspodjelu mirovina i slično. Stoga, mirovinski sustavi mogu biti javni ili privatni te obvezni ili dobrovoljni. Temeljna je podjela mirovinskih sustava na javne mirovinske sustave međugeneracijske solidarnosti, a koji se financiraju iz uplaćenih doprinosa zaposlenika te kapitalizirane mirovinske sustave koji se financiraju iz doprinosa osiguranika kapitaliziranim u mirovinskim fondovima. Budući svaki od modela financiranja mirovinskog osiguranja ima svoje prednosti i nedostatke, danas se najviše koriste mješoviti modeli financiranja u kojima umjesto s jednim postoji sustav s više mirovinskih stupova. Mješoviti sustav financiranja mirovina s tri stupa osiguranja utemeljen je u Hrvatskoj nakon provedene mirovinske reforme 2002. godine. No, unatoč reformi, današnji sustav mirovinskog osiguranja u Hrvatskoj ima značajnih poteškoća koje mu otežavaju učinkovito funkcioniranje.*

*Cilj ovoga rada je analiza efikasnosti i održivosti postojećeg sustava mirovinskog osiguranja u Hrvatskoj te utvrđivanje ključnih parametara koji određuju njegov daljnji razvoj. Autori u radu komparativnom analizom mirovinskog sustava Hrvatske s mirovinskim sustavom Slovenije i Švicarske istražuju pojedine varijable važne za održivost ovoga osiguranja u Hrvatskoj, te daju prijedloge za nadogradnju postojećeg sustava kao i razvoj novog modela financiranja kako bi sadašnji i budući umirovljenici imali bolju financijsku i socijalnu sigurnost. Pri tome koriste niz znanstvenih metoda istraživanja (metode analize, komparacije, indukcije, dedukcije, deskripcije i klasifikacije itd.) kao i pojedine statističko-matematičke metode korištene za analizu i rangiranje određenih parametara.*

***Ključne riječi:*** Mirovinski sustav, financiranje, održivost, reforme mirovinskog sustava, Hrvatska

### 1. Introduction

Pension systems are part of the system in the context of the social policies of society. „Social policy is an organized activity of the state and other social factors affecting the sustainable development of society. It deals with the causes, forms and consequences of redistribution of national income, and is aimed at overcoming social risk, help the poor and excluded individuals and improving the social welfare of the population.“ (Puljiz, 2005, 4.)

Because the pension system provided the most significant social risks that can happen to everyone (eg. the risk of age, disability, etc.) the importance of its stability is of great significance for the population of a country. This system is necessary for the balanced functioning of the whole society and maintain its social cohesion, and connecting individuals and groups within society as a whole.

### 2. Types and division of pension systems

„The pension is a public institute, thanks to which citizens can generate revenues at an age when they are no longer able to earn money for life. Through the pension insurance system one part of its spending, which is accomplished during the active age, postponed for the future when they will be old and helpless.“ (Puljiz, 2005, 180.) More specifically, with equal distribution of income and consumption individual saving for the future. Pension insurance system consists of several subsystems defined in terms of types of insured, method of financing, pension fund management and distribution of pensions. Based on the preliminary classification of pension systems it is important to know the most commonly used classification of these systems according to the method of financing

and the allocation of funds for pensions. The first method of collection and distribution of pensions is the current distribution on the basis of intergenerational solidarity, and otherwise are capital funded pensions.

For the pension system based on intergenerational solidarity used the abbreviation of the PAYG (pay as you go). In this model of pension to pensioners are financed from contributions paid to the employed population. The main principles of the PAYG system as follows:

- 1) Long-term do not accumulate resources in funds to them from paying future pensions, but the contributions paid employed population funded pensions of current retirees.
- 2) The state is relieved the obligation to pay pensioners funds during the life pulled in the form of pension contributions, but pensions are paid from the income of future generations of employees.
- 3) Assuming normal growth of the economy and maintaining the demographic balance, the new generation of pensioners can get a higher pension in relation to contributions paid during working life. (Puljiz, 2008, 182.)

Unfortunately, the third characteristic of the pension system based on the model of intergenerational solidarity is often not realized, but exactly the opposite (a fall in output of employees and at the same time decrease of pensions of retirees), which often leads to a crisis of this system. However, these systems certainly have some advantages, and some of them are:

- 1) it is easier to adapt to inflationary trends and the various market fluctuations in relation to funded pension funds,
- 2) enable real increase in pensions depending on economic growth,
- 3) they can be built quickly in relation to funded pension funds.

Another method of collection and distribution of pensions are capital funded pensions, relating to the capitalization of pensions. Based principles of capitalized pension funds are as follows:

- 1) the insurees pays contributions for their future pensions,
- 2) collected contributions to the fund are invested in the capital market for profit,
- 3) the insurees receive a pension when they stop working and retire to include the profit on investments,
- 4) achieved an additional amount of the contribution of investment, is kept in a separate account for each insured, and on cessation of work turns into a pension annuity,
- 5) the insurees bear the investment risk pension funds,
- 6) funds at the state level govern specific organization based on the principles of profitability and security role,
- 7) individual pension depends on the accumulated amount of contributions, the realized profit and the calculation of life expectancy at the time of retirement. (Puljiz, 2008, 181.)

In accordance with the above principles is possible to observe the advantages and disadvantages of capitalized pension funds. The biggest advantage of these funds, as opposed to the system of intergenerational solidarity, is to encourage people to be responsible and rational use of resources and savings for old age during their working years. However, the biggest disadvantage of this pension system is the exposure pension funds to capital markets, and consequently the risks of investing that eventually borne by the insured.

Based on the explanations of both models of pension insurance it is possible to conclude that in of pension systems based on intergenerational solidarity, an essential component of redistribution from richer to poorer categories of pensioners, while the capitalization of pensions most important personal responsibility which is reflected contributions paid and their capitalization. Because no single model of pension insurance is not fully effective, it is common that today's pension systems are a combination of different models with regard to the method of financing, resource allocation, organization and management. Accordingly, instead of one (mono-pillar system) in most countries there are systems with multiple pension pillars (multi-pillar system) that operate according to different ways of collecting, managing and distributing funds.

### **3. Pension insurance system in Republic of Croatia**

The pension system of the Republic of Croatia has a long tradition. The crisis of this system, which was present at the end of the period of socialism, deepened and after Croatia independence and during the war. Because of this at the end of the nineties began reform of the Croatian pension insurance system, which was completed in 2002. Implemented reforms today's pension system of our country is based on a mixed financing model, in which instead of one there is a system with multiple pension pillars. The first pillar is the mandatory pension insurance based on intergenerational solidarity, and is financed by contributions from the insurees, that employers pay at a rate of 20% of employees' gross salaries. Pension insurance under the second pillar is mandatory for insurees who are insured under the Law on Pension Insurance, and holders of this insurance are mandatory pension funds. The contribution rate which is paid to the mandatory pension funds is 5% of the gross salary of the insurees. Accordingly, insured persons who in 2002 were younger than 40 years of age, and are insured in both pillar, allocated 15% of the contribution to the first pillar and 5% of contributions to the second pillar. The third pillar pension system in Croatia is voluntary pension insurance based on individual capitalized savings, which implement voluntary pension funds. The third pillar of insurance participate the insurees who wish to further insured against the risk of old age, disability and death.

But despite the reforms, today's pension insurance system in Croatia has significant problems that complicate the effective functioning. Because of this in the sequel of paper will be analyzed effectiveness and sustainability of the existing pension system in Croatia and to identify key parameters that determine its further development.

#### **3.1. Analysis of the pension system in Croatia with the pension system in Slovenia and Switzerland**

The analysis of the pension system of Slovenia as an EU Member State and Switzerland as a country that has developed pension system in accordance with the European social model, endeavor to be observed their core strengths and weaknesses and compare them with the Croatian pension system. Based on the obtained analysis of Slovenia pension insurance with two pillars, and Swiss pension insurance with three pillars, and comparing the basic key indicators for the pension system, will be adopted conclusions about the state in the Croatian pension insurance and propose its possible improvements.

Gross domestic product and employment rate are basic macroeconomic indicators of economic development and significantly affect the development of the pension system. The ratio of the number of insurees and pensioners indicates sustainability/unsustainability of system based on intergenerational solidarity. The number of beneficiaries and payment of contributions to the second and third pillar shows a willingness of the population to participation in particular forms of voluntary pension insurance as well as timely and effective investment of assets by pension funds on the capital market.

Gross domestic product per capita is presented in accordance with the methodology of European statistics in Table 1.

**Table 1** The gross domestic product per capita of the observed countries, expressed in purchasing power standards (PPS)<sup>1</sup>

GDP per capita	Croatia			Slovenia			Switzerland		
	Purchasing power standards	Current prices in PPS	Real growth rate of GDP (%)	Purchasing power standards	Current prices in PPS	Real growth rate of GDP (%)	Purchasing power standards	Current prices in PPS	Real growth rate of GDP (%)
2005	57	12.800	4,3	87	19.600	4,0	132	30.700	2,7
2006	58	13.700	4,9	88	20.700	5,8	134	32.900	3,8
2007	61	15.200	5,1	88	22.100	6,9	139	36.000	3,8
2008	63	15.800	2,1	91	22.700	3,6	143	37.200	2,3
2009	62	14.600	-6,9	87	20.500	-0,8	144	34.900	-1,9
2010	61	14.500	-1,4	85	20.700	1,4	147	37.400	3,0
2011	61	15.500	0,1	84	21.000	1,3	151	39.500	2,1
2012	61	15.600	0,5	81	19.600	-1,4	160	45.300	2,5
2013	62	15.800	0,8	81	19.800	0,2	163	46.200	1,9
2014	62	15.800	1,0	83	22.100	2,3	164	46.700	1,0

Source: Državni zavod za statistiku Republike Hrvatske (DZS), Eurostat – European Statistics, author

In accordance with the methodology of the European statistics Croatian GDP per capita is far behind the EU average. In Slovenia, this lag is much less, while Switzerland has a higher GDP per capita than the average of the European Union.

Based on the analyzed data, it is possible to observe low level of economic development of our country in relation to Slovenia and Switzerland, as well as the entire European Union and also negative assumptions for the sustainability of the pension system. Data on employment rate for all three countries are presented in Table 2.

**Table 2** The employment rate in the period from 2005 to 2014 (%)

Employment rate (%)	Croatia		Slovenia		Switzerland	
	%	Index	%	Index	%	Index
2005	60,0	-	71,1	-	79,9	-
2006	60,6	0,6	71,5	0,4	80,5	0,6
2007	62,3	1,7	72,4	0,9	81,3	0,8
2008	62,9	0,6	73,0	0,6	82,3	1,0
2009	61,7	-1,2	71,9	-1,1	81,7	-0,6
2010	58,7	-3,0	70,3	-1,6	81,1	-0,6
2011	57,0	-1,7	68,4	-1,9	81,8	0,7
2012	57,3	0,3	69,5	1,1	81,9	0,1
2013	57,4	0,1	69,3	-0,2	82,0	0,1
2014	57,4	0,0	69,9	0,6	82,5	0,5

Source: Državni zavod za statistiku Republike Hrvatske (DZS), Eurostat – European Statistics, author

Analyzing the employment rate noticeable is their biggest percentage in Switzerland, where 80% to 83% of the working age population is employed. This data indicates the relative sustainability of the pension system in this country, especially its first pillar, whose financing depends exclusively on the payments of contributions of employees. Croatia compared to Switzerland has a large number of the unemployed population (the largest employment rate amounted 63% in 2008), which indicates the problems in the sustainability of the pension system. The employment rate in the observed period in Slovenia amounted from 68% to 73%, which can cause problems of financing pensions in this country, however to a lesser extent than in Croatia. Number of insureds and pensioners is presented in Table 3.

<sup>1</sup> Gross domestic product per capita in purchasing power standards (PPS), in accordance with the methodology of the European statistics is expressed in relation to the European Union (EU-28=100). Accordingly, if the index of a country is higher than 100, this country has a GDP per capita higher than the EU average and vice versa. On this basis, GDP expressed in purchasing power standards eliminates differences in price levels between countries, and provides a more realistic comparisons of GDP between countries.

**Table 3** Number of insurees and pensioners in three European countries

Number	Croatia			Slovenia			Switzerland		
	Insurees	Pensioners	Ratio	Insurees	Pensioners	Ratio	Insurees	Pensioners	Ratio
<b>2005</b>	1.498.877	1.080.571	1,39	843.251	504.988	1,67	4.517.458	2.093.083	2,16
<b>2006</b>	1.538.170	1.100.086	1,40	854.606	510.795	1,67	4.598.569	2.145.069	2,14
<b>2007</b>	1.579.463	1.121.540	1,41	879.090	518.805	1,69	4.615.875	2.206.153	2,09
<b>2008</b>	1.604.848	1.148.290	1,40	904.084	527.933	1,71	4.745.887	2.268.312	2,09
<b>2009</b>	1.530.233	1.173.814	1,30	894.886	538.455	1,66	4.714.555	2.329.233	2,02
<b>2010</b>	1.475.363	1.200.386	1,23	881.992	552.561	1,60	4.875.101	2.381.218	2,05
<b>2011</b>	1.468.133	1.213.121	1,21	869.869	569.951	1,53	4.915.114	2.432.049	2,02
<b>2012</b>	1.432.740	1.217.692	1,18	867.125	578.101	1,50	4.998.154	2.569.125	1,95
<b>2013</b>	1.400.631	1.190.815	1,18	855.998	589.352	1,45	4.936.897	2.614.698	1,89
<b>2014</b>	1.397.400	1.223.738	1,14	851.875	591.123	1,44	4.999.589	2.778.120	1,80

Source: Annual reports - Hrvatski zavod za mirovinsko osiguranje (HZMO), Zavod za pokojninsko in invalidsko zavarovanje Slovenije (ZPIZ), Federal Social Insurance Office, Switzerland, author

Based on the data in the table it is possible to observe that the most unfavorable ratio of insurees and pensioners of the first pillar has Croatia. The lowest ratio was recorded in 2014 (retirement one pensioner was financed by only 1.1 employees) as well as the total number of insurees, while the number of pensioners continues to increase the observed period. In addition to our country, Slovenia have also significant problems with the ratio of insurees and pensioners of public pension systems, because their highest ratio was recorded in 2008, while in the last three years constantly decreasing. The ratio of insurees and pensioners of the first pillar in Switzerland in relation to Croatia and Slovenia is slightly better, but still not fully satisfactory. Public pension systems are constantly accompanied by negative demographic trends and growing share of the older population in the total population, while the unfavorable ratio of insurees and pensioners in our country, in addition to demographic indicators affected by the high percentage of unemployment, weak growth in gross domestic product and etc. The share of the insurees first pillar in the total population is presented in Table 4 for all three countries.

**Table 4** The share of the insurees first pillar in the total population (%)

Share %	Croatia		Slovenia		Switzerland	
	Number of population	% insurees	Number of population	% insurees	Number of population	% insurees
<b>2005</b>	4.443.901	33,73	1.997.590	42,21	7.415.102	60,92
<b>2006</b>	4.442.884	34,62	2.003.358	42,66	7.459.128	61,65
<b>2007</b>	4.441.238	35,56	2.010.377	43,73	7.508.739	61,47
<b>2008</b>	4.436.401	36,17	2.010.269	44,97	7.593.494	62,50
<b>2009</b>	4.435.056	34,50	2.032.362	44,03	7.701.856	61,21
<b>2010</b>	4.425.747	33,34	2.046.976	43,09	7.785.806	62,62
<b>2011</b>	4.412.137	33,27	2.050.189	42,43	7.870.134	62,45
<b>2012</b>	4.412.599	32,47	2.055.496	42,19	7.952.555	62,85
<b>2013</b>	4.412.698	31,74	2.056.593	41,62	7.997.125	61,73
<b>2014</b>	4.415.598	31,65	2.057.456	41,40	7.999.987	62,49

Source: author

Analyzing data on the share of insurees first pillar in the total population it is noticeable their increasing trend in Croatia and Slovenia in the period from 2005 to 2008 where it was the largest. After 2008, both countries have a decrease of this indicator. Although the shares are relatively low, it is possible to conclude that Slovenia with regard to the total population has a better pension policy in relation to Croatia, and on the basis of it achieves a greater share of insurees in the total population (and probably even greater share of insurees in the working age population).

With regard to Croatia and Slovenia, Switzerland has a increasing trend of this indicators observed in most years, while according to the percentage of the maximum achieved 63% in 2012, certainly achieves advantage over Croatia and Slovenia. However, in addition to economic development and high employment, the reasons higher rates of insurees shares in the total population it is possible to observe in accordance with Swiss law, and the obligation of insurance the unemployed within the

first pillar. Comparison of the number of insurees in the three pillars of the observed countries is presented in Table 5 for the period from 2005 to 2014.

**Table 5** Number of insurees in the three pillars

Number of insurees	Croatia			Slovenia <sup>2</sup>			Switzerland		
	First pillar	Second pillar	Third pillar	First pillar	Second pillar (MI)	Second pillar (VI)	First pillar	Second pillar	Third pillar
2005	1.498.877	1.248.935	68.358	843.251	32.734	406.546	4.517.458	3.358.589	No d.a. <sup>3</sup>
2006	1.538.170	1.322.010	92.361	854.606	35.078	409.317	4.598.569	3.431.851	No d.a.
2007	1.579.463	1.395.693	121.123	879.090	37.315	419.811	4.615.875	3.571.129	1.477.458
2008	1.604.848	1.475.729	144.938	904.084	39.306	430.817	4.745.887	3.659.984	1.511.122
2009	1.530.233	1.522.149	163.610	894.886	40.750	444.590	4.714.555	3.787.152	1.655.133
2010	1.475.363	1.561.454	187.051	881.992	42.281	456.356	4.875.101	3.696.450	1.741.154
2011	1.468.133	1.589.718	198.236	869.869	43.677	445.654	4.915.114	3.759.789	1.829.587
2012	1.432.740	1.599.717	198.125	867.125	43.789	452.125	4.998.154	3.898.789	1.897.567
2013	1.400.631	1.599.999	199.561	855.998	44.156	452.698	4.936.897	3.901.874	1.956.365
2014	1.397.400	1.601.100	199.987	851.875	45.256	453.897	4.999.589	3.994.569	1.999.874

Source: HZMO, REGOS, HANFA, ZPIZ, *Kapitalska družba Republike Slovenije*, Federal Social Insurance Office, Switzerland, author

Number of insurees in the second pillar of the pension insurance recorded a increasing trend in the whole period for all three countries. Increasing trend of insurees was recorded in the third pillar in Croatia and Switzerland which indicates the growing need of the insurees for additional saving for old age. Because Slovenian second pillar has the characteristics and the mandatory and voluntary noticeable is the much smaller number of insurees within the the mandatory pension insurance (although, accordance with the Law it covers only persons employed in occupation dangerous to the health and employees in the public service). Number of insured persons within the voluntary pension insurance in Slovenia has a slight increasing trend in the observed period, but by comparing the total number of insured persons with the number of insurees within the third pillar in Croatia, Slovenia has a significant advantage.

The share of insurees second pillar in the total number of insurees in first pillar is presented in Table 6.

**Table 6** The share of insurees second pillar in the number of insurees in first pillar (%)

Share %	Croatia		Slovenia		Switzerland	
	Number of insurees in first pillar	% insurees in second pillar	Number of insurees in first pillar	% insurees in second pillar	Number of insurees in first pillar	% insurees in second pillar
2005	100	83,32	100	52,09	100	74,35
2006	100	85,95	100	52,00	100	74,63
2007	100	88,37	100	52,00	100	77,37
2008	100	91,95	100	52,00	100	77,12
2009	100	99,47	100	54,23	100	80,33
2010	100	105,84	100	56,54	100	75,82
2011	100	108,28	100	56,25	100	76,49
2012	100	111,65	100	57,19	100	78,00
2013	100	114,23	100	58,04	100	79,03
2014	100	114,58	100	58,59	100	79,90

Source: author

Analysing the shares of the insurees second pension pillar in the number of insures in first pillar for all three countries, the largest share was recorded in Croatia, and in the last five years, the second pillar had the greater number of the insurees in relation to the first pillar. The trend of increase will

<sup>2</sup> For Slovenia the data within the second pillar separated according to the characteristics mandatory insurance (MI) and voluntary insurance (VI)

<sup>3</sup> No d.a. – No data available



probably continue, considering to the pension insurance system in most of the entrances a person under 40 years of age, who are mandatory insured in the first and second pillar, and from the pension system every year to retire goes about 40.000 insurees who were insured only in the first pillar. Similar indicators has Switzerland, while Slovenia has a much smaller share of the insurees second pillar in the number of insurees in first pillar.

Revenues from contributions paid from insurees are an important indicator of the sustainability of the pension system of each country. They exhibit a basic source of financing of pensions to pensioners, but they are also an indicator of interest insurees participation in certain forms of voluntary pension insurance. Data about payment of contributions for each pillar are presented in Table 7.

**Table 7 Pension insurance contributions within each pillar (in million HRK)<sup>4</sup>**

Amount of contribution	Croatia			Slovenia			Switzerland		
	First pillar	Second pillar	Third pillar	First pillar	Second pillar (MI)	Second pillar (VI)	First pillar	Second pillar	Third pillar
<b>2005</b>	15.713	3.110	215	15.829	186	2.855	96.589	169.587	No d.a.
<b>2006</b>	16.919	3.484	282	19.772	204	2.886	101.158	176.755	No d.a.
<b>2007</b>	18.543	3.995	360	21.524	225	2.981	112.932	189.680	101.995
<b>2008</b>	20.155	4.513	390	23.490	276	2.967	120.484	194.685	110.741
<b>2009</b>	19.838	4.581	485	24.147	302	3.067	132.739	213.136	125.698
<b>2010</b>	19.153	4.544	487	24.307	356	2.792	145.155	242.669	136.669
<b>2011</b>	19.075	4.711	496	24.964	433	2.920	170.828	235.155	147.558
<b>2012</b>	19.069	4.810	499	25.159	489	2.998	180.898	249.589	150.256
<b>2013</b>	19.078	4.899	501	25.256	523	3.125	190.845	250.125	159.879
<b>2014</b>	19.077	4.997	501	26.126	599	3.458	199.987	261.111	165.125

*Source: HZMO, REGOS, ZPIZ, Kapitalska družba Republike Slovenije, Federal Social Insurance Office, Switzerland, The Swiss Insurance Association (SIA), author*

Analyzing the payment of contributions to particular pillar is possible to conclude that the maximum payment of contributions in Croatia and Slovenia achieved under the first pillar. Observing payments in the second pillar noticeable is its dominance in Switzerland, where 42% to 47% of all payments of pension contributions, within the observed period, occupies the second pillar. The growth trend of contributions paid was recorded in all three pillars of insurance, as opposed to Croatia where is recorded decreasing trend of contributions paid in first pillar after 2008. In Slovenia, the payment of contributions within the voluntary insurance model is higher than the mandatory insurance and compared with Croatia, Slovenia has a significant advantage in the context of the model of voluntary pension insurance (higher number of insurees, and accordingly a higher amount of contributions paid).

Based on the analysis and comparisons of indicators important for the sustainability of the pension system in Croatia, it is possible to enact the final conclusions. Indicators of economic development (gross domestic product, employment rate) in Slovenia and Switzerland compared to Croatia have significantly higher trend of growth, and accordingly a good prerequisites for the sustainability of the pension system. This system in Croatia has expressed dominance within the first pillar insurance based on intergenerational solidarity. But the ratios of the insurees in compared to the pensioners are extremely unfavorable, which indicates the unsustainability of this pillar. In the other two countries this ratio is more favorable, but considering the share of older population in working age it will probably be reduced. Based on these observations it is possible to conclude that the future of the pension system certainly is in capitalized savings, which unfortunately in Croatia is not sufficiently represented. Payment of contributions to the second pillar in Switzerland in compared to Croatia are significantly higher (as well as the contribution rate), while in Slovenia is more pronounced

<sup>4</sup> Data for Slovenia and Switzerland are converted from the euro (EUR) and Swiss francs (CHF) in Croatian kuna (HRK) based on annual averages of foreign exchange rates of the Croatian National Bank, available at <http://www.hnb.hr/tecajn/htecajn.htm>, accessed 14 March 2016.

voluntary insurance under the second pillar insurance. Developed pension insurance system in accordance with the European social model have both countries and on the basis of that, more developed forms of capital savings through voluntary and compulsory insurance, which Croatia will have to continue to develop as a member of the European Union, if it wants to maintain the sustainability of the pension insurance.

#### 4. Conclusion

In order to solve the problems of the pension system in Croatia, it is necessary to upgrade the existing system and develop a new model of financing the pension system in order to current and future pensioners have the best possible financial and social security. The model of sustainable pension insurance system should provide more righteousness with regard to the invested resources in compared to the final amount of the pension realized after legally acquired the conditions for retirement and also the balanced development of the entire society. This system initially should be in the function of economic development (especially employment). In addition, it is necessary to change some of its parameters (to ensure consistent application of administrative measures, valorise the specifics of mandatory and voluntary insurance, etc.), because the pension insurance system of the country whose economy is underdeveloped, will not be able respond to the demands an increasingly dynamic contemporary society. With new models of savings will be possible to affect additional gathering of pension contributions, the amount and time of issue to the pension funds, the successful management resources of pension funds and also larger insureds confidence of the entire pension system.

#### REFERENCES

- Puljiz, V. (2005.): *Socijalna politika*, Pravni fakultet u Zagrebu, Zagreb
- Puljiz, V. (2008.): *Socijalna politika Hrvatske*, Pravni fakultet u Zagrebu, Zagreb
- Matić, B. & Serdarušić, H. & Vretenar, M. (2012): *Some Features of the Relationship to Personal Finances within Population of Eastern Croatia*, in: Eighth International Conference: Interdisciplinary Management Research VIII, Josip Juraj Strossmayer University in Osijek, Faculty of Economics in Osijek, Postgraduate Studies "Management", Hochschule Pforzheim University, May 11-13, 2012, pp. 603-612
- Državni zavod za statistiku Republike Hrvatske, [www.dzs.hr](http://www.dzs.hr), (accessed 14 March 2016)
- Eurostat – European Statistics, <http://ec.europa.eu/eurostat>, (accessed 14 March 2016)
- Hrvatski zavod za mirovinsko osiguranje, [www.hzmo.hr](http://www.hzmo.hr), (accessed 14 March 2016)
- Središnji registar osiguranika, [www.regos.hr](http://www.regos.hr), (accessed 14 March 2016)
- Hrvatska agencija za nadzor financijskih usluga, [www.hanfa.hr](http://www.hanfa.hr), (accessed 14 March 2016)
- Hrvatska narodna banka, [www.hnb.hr](http://www.hnb.hr), (accessed 14 March 2016)
- Zavod za pokojninsko in invalidsko zavarovanje Slovenije, [www.zpiz.si](http://www.zpiz.si), (accessed 14 March 2016)
- Kapitalska družba Republike Slovenije, [www.kapitalska-druzba.si](http://www.kapitalska-druzba.si), (accessed 14 March 2016)
- Federal Social Insurance Office, Switzerland, [www.bsv.admin.ch](http://www.bsv.admin.ch), (accessed 14 March 2016)
- The Swiss Insurance Association, [www.svv.ch](http://www.svv.ch), (accessed 14 March 2016)

**Professor Katarina Žager, Ph.D.**

University of Zagreb, Faculty of Economics and Business  
Trg J. F. Kennedyja 6, Zagreb  
Phone: +385-1-238 3163 Fax: +385-1-233-5633  
E-mail address: kzager@efzg.hr

**Assistant Professor Sanja Sever Mališ, Ph.D.**

University of Zagreb, Faculty of Economics and Business  
Trg J. F. Kennedyja 6, Zagreb  
Phone: +385-1-238 3184 Fax: +385-1-233-5633  
E-mail address: ssever@efzg.hr

**Assistant Professor Ana Novak, Ph.D.**

University of Zagreb, Faculty of Economics and Business  
Trg J. F. Kennedyja 6, Zagreb  
Phone: +385-1-238 3116 Fax: +385-1-233-5633  
E-mail address: anovak@efzg.hr

**ACCOUNTANTS' VIEWS REGARDING THE EFFECTIVENESS OF FRAUD  
PREVENTION CONTROLS**

**PERCEPCIJA RAČUNOVOĐA O UČINKOVITOSTI MJERA ZA  
SPRJEČAVANJE PRIJEVARA**

**ABSTRACT**

*Confidence in the reliability and objectivity of the financial statements has been significantly reduced due to numerous accounting and auditing scandals. The paper provides a systematization of the existing scientific fraud inside and the various causes of fraud occurrence. Moreover, it highlights the importance of control mechanisms in preventing undesirable fraud events occurrence. This paper puts emphasis on design and implementation of appropriate internal controls systems, in order to assure high quality information presented in financial statements. Fraud prevention controls have a significant role in ensuring reliable financial reporting. In addition to the overview of the existing fraud awareness the paper examines the most common anti-fraud controls. A review of the conducted empirical research was built upon information made available through companies in the Republic of Croatia on the sample of subjects consisted of accountants and external auditors. For the purpose of this study, the accountants' and external auditors' perception of effectiveness of the fraud prevention controls is examined. Both, theoretical and empirical results of the paper provide information on the most effective fraud prevention controls that may contribute reducing the risks of fraud, as well as reducing the costs of fraud and shortening the time for fraud detection. The results of the research clearly indicate the significant impact of internal controls on the prevention of fraudulent financial reporting.*

**Key words:** *fraudulent financial reporting, fraud prevention control, accountants, auditors*

**SAŽETAK**

*Zbog brojnih računovodstvenih i revizijskih skandala značajno je smanjeno povjerenje zainteresiranih korisnika u realnost i objektivnost financijskih izvještaja. Stoga je cilj rada, osim sistematizacije postojećih spoznaja o prijevarama i uzrocima njihova nastanka, ukazati na važnost i*

*vrstu mjera koje mogu doprinijeti sprječavanju njihovog nastajanja. Jedna od zasigurno važnih preventivnih mjera jest nužnost oblikovanja i implementacije adekvatnog sustava internih kontrola, koji može osigurati kvalitetne informacije koje su prezentirane u financijskim izvještajima. Budući da mjere za sprječavanje prijevара imaju značajnu ulogu u osiguranju pouzdanog financijskog izvještavanja, u radu su, pored prikaza postojećih spoznaja o prijevarama, istražene najčešće mjere za sprječavanje prijevara. Informacije o učinkovitosti ovih kontrola su prezentirane pregledom postojećih istraživanja te je također provedeno empirijsko istraživanje u poduzećima u Republici Hrvatskoj. Za potrebe empirijskog dijela rada, informacije su prikupljene metodom anketiranja na uzorku kojeg su činili računovođe i eksterni revizori. U tom smislu istražena je percepcija računovođa i eksternih revizora o učinkovitosti mjera za sprječavanje prijevara. Rezultati cjelokupnog istraživanja, kako teorijskog tako i empirijskog dijela rada, pružaju informacije o najučinkovitijim kontrolama za sprječavanje prijevara, koje mogu doprinijeti ne samo smanjenju izloženosti riziku prijevара, nego i smanjivanju troška prijevара kao i skraćivanju vremena koje je potrebno za otkrivanje prijevара. Rezultati istraživanja jasno pokazuju značajan utjecaj internih kontrola na sprječavanje prijevarnog financijskog izvještavanja.*

**Ključne riječi:** *prijevarno financijsko izvještavanje, kontrole za sprječavanje prijevara, računovođe, revizori*

## **1. Introduction**

Due to the numerous frauds and scandals which have recently happened, there is an intensified need of finding the right measures that would prevent them. Business world primarily based on making profits and accumulation of material fortune, nowadays is showing its real face. Human greed has left the impact. Changed system of values and lack of real moral values have brought to severe disorders in economic processes, as well as in human relations. Profits earned without respecting certain moral norms have brought misfortune. There are many examples of it - in the past but also in the present, as well as in undeveloped and developed countries. That kind of behaviour will cause damage in financial and moral aspects. Therefore, a certain steps should be done in order to find a solution that would create a better control environment. There are many participants involved in that process; and among them, accountants and auditors have an especially important role. Special type of expertise they possess, as well as the experience in tracking and revealing the undesirable events, are crucial for defining an efficient system of preventing the undesirable events, especially frauds. Therefore, this paper presents systematization of existing fraud knowledge, causes of fraud occurrence, and, according to the accountants' opinion, the most effective fraud prevention controls.

## **2. Overview of the research in the field of fraudulent financial reporting**

Fraud can be defined in many different ways. „In business environment fraud is an intentional deception, misappropriation of a company's assets, or manipulation of its financial data to the advantage of the perpetrator“ (Hall, 2007, 118). In accordance with the International Standards on Auditing (ISA) fraud is “an intentional act by one or more individuals among management, those charged with governance, employees, or third parties, involving the use of deception to obtain an unjust or illegal advantage” (IASB, 2009). The Institute of Internal Auditors' (IIA's) defines fraud as “any illegal act characterized by deceit, concealment, or violation of trust. These acts are not dependent upon the threat of violence or physical force. Frauds are perpetrated by parties and organizations to obtain money, property, or services; to avoid payment or loss of services; or to secure personal or business advantage” (IIA, 2009, 4). Singleton et. al. stated that there is no definite and invariable rule that can be laid down as a general proposition in defining fraud, as it includes surprise, trick, cunning and unfair ways by which another is cheated (Singleton et al.,

2006, 1). Fraud always involves a deliberate action by one person to gain an unfair advantage over another person, and can take many forms (Vaassen, 2004, 236).

*The Association of Certified Fraud Examiners (ACFE)* has identified three primary categories of fraud based on the numerous investigated fraud cases. These are asset misappropriations, corruption schemes and financial statement fraud schemes. According to ACFE, asset misappropriations are those schemes in which the perpetrator steals or misuses an organization's resources. The corruption schemes involve the employee's use of his or her influence in business transactions in a way that violates his or her duty to the employer for the purpose of obtaining a benefit for himself or herself or someone else. Financial statement fraud schemes are those involving the intentional misstatement or omission of material information in the organization's financial reports. (ACFE, 2010) For the purposes of the International Standards on Auditing, although fraud is a broad legal concept, the auditor is concerned with fraud that causes a material misstatement in the financial statements, and accordingly two types of intentional misstatements relevant to the auditor are misstatements resulting from fraudulent financial reporting and misstatements resulting from misappropriation of assets (IASB, 2009).

Since intention is necessary in committing fraud and „the only boundaries defining it are those which limit human knavery“ (Singleton et al., 2006, 1), it is obvious that human factor is an essential element in genesis of a fraud. The first to investigate why people commit fraud was American criminologist Donald Cressey in 1950 (Kassem, Higson, 2012, 191). As a result of his research the „fraud triangle“ model was developed. This triangle consists of opportunity, motivation and rationalization, elements that are commonly present in fraud. International Standard on Auditing accepted these three elements and stated that fraud, whether fraudulent financial reporting or misappropriation of assets, involves incentive or pressure to commit fraud, a perceived opportunity to do so and some rationalization of the act (IASB, 2009). According to Rezaee and Riley, financial statement fraud occurs for a wide variety of reasons, including when motives are combined with opportunity (Rezaee, Z., Riley, R., 2010, 57). Motivated person, being able to rationalize his or her behaviour, will find a way to commit fraud. In order to improve both fraud prevention and detection, Wolfe and Hermanson propose a person's capability as the fourth element, in addition to aforementioned elements of fraud triangle, which creates the “Fraud diamond”. Authors of this model believe that the right person with right capabilities in the right position is also required before the fraud can take place (Wolfe, Hermanson, 2004, 38).

Fraud has a negative impact on the organizations in different ways, including financial, reputational, psychological, and social (IIA, 2009, 5). Fraud causes tremendous losses to the business world (Seetharaman et al., 2004, 1055). Since many fraudulent schemes remain undiscovered, or months and even years may pass till they are discovered, and because there are often no reports of fraud, it is very difficult to calculate the exact amount of losses due to fraud. It is estimated that the typical organization's annual loss of revenues is 5% (ACFE, 2014, 4).

There is lack of academic research in the field of financial fraud investigations and assets misappropriation. Most of the research was carried out by the professional organizations. The report *Fraudulent Financial Reporting: 1987–1997 – An Analysis of U.S. Public Companies* commissioned by the *Committee of Sponsoring Organizations of the Treadway Commission (COSO)* provides a comprehensive analysis of fraudulent financial reporting occurrences during the 11 year period. This report, which was based on the detailed analysis of approximately 200 financial statement fraud cases, identified that cumulative amounts of frauds were relatively large in the light of the relatively small sizes of the companies involved. Most frauds were not isolated to a single fiscal period. Typical financial statement fraud techniques involved the overstatement of revenues and assets. In accordance with the study the companies committing fraud generally were small, the frauds went to the very top of the organizations, the audit committees and boards of the

fraud companies appeared to be weak, a significant portion of the companies was owned by the founders and board members, severe consequences resulted when companies committed fraud, including bankruptcy, significant changes in ownership, and delisting by national exchanges (Beasley et. al., 1999).

Subsequently COSO sponsored study *Fraudulent Financial Reporting: 1998-2007 - An Analysis of U.S. Public Companies* to provide an extensive updated analysis of the financial statement fraud occurrences affecting U.S. public companies. Some of the key findings of this study, which was based on 347 alleged cases of public company fraudulent financial reporting, are: the companies allegedly engaging in financial statement fraud had median assets and revenues just under \$100 million, the SEC named the CEO and/or CFO for some level of involvement in 89% of the fraud cases, the most common fraud technique involved improper revenue recognition, followed by the overstatement of existing assets or capitalization of expenses, relatively few differences in board of director characteristics existed between firms engaging in fraud and similar firms not engaging in fraud, 26% of the fraud firms changed auditors between the last clean financial statements and the last fraudulent financial statements, long-term negative consequences of fraud were apparent (Beasley et. al., 2010).

Since 1996 *The Association of Certified Fraud Examiners* (ACFE) periodically investigated methodologies, cost and perpetrators of fraud within organization and publishes results in *Report to the Nations on Occupational Fraud and Abuse*. The latest global 2014 Report is based on the results of 1,483 *Certified Fraud Examiners* responses to the online survey in which respondents were asked to provide detailed information of the single largest fraud case they had investigated in period between January 2012 and the time of survey participation. According to the report, asset misappropriation was the most common (85% of cases) type of occupational fraud, as well as the least costly, while financial statement fraud involved only 9% of cases, but those cases had the greatest financial impact. In accordance with report, the median duration for all categories of occupational fraud was 18 months, and most cases were detected by a tip. The study also highlighted that the median loss of frauds tends to rise with the age, while the age distribution of fraudsters fits a bell curve model. Study also indicated that the largest group of the fraud perpetrators had been employed by their targets between one and five years before committing their crimes. According to the study, the proportion of males rises as authority levels increase and males consistently cause larger losses, even when they occupy similar positions as females. The study indicated the strong correlation between a fraudster's level of authority and the financial impact of the fraud, the higher the perpetrator's level of authority, the greater fraud losses tend to be. (ACFE, 2014)

According to KPMG's analysis of 596 fraudsters member firms investigated between 2011 and 2013, misappropriation of assets was the most common type of fraud by a large margin, of which embezzlement; procurement and payroll fraud were frequently employed. Revenue or assets gained, fraudulent financial reporting and expenses or liabilities appeared in moderate to large amounts. Based on KPMG's study, the typical fraudster is 36 to 45 years of age, is generally acting against his/her own organization, and is mostly employed in an executive, finance, operations or sales/marketing function. He/she holds a senior management position, was employed in the organization in excess of six years and, in committing the fraud, frequently acted in concert with others. Study concluded that the type of fraud and the type of fraudster are continually changing, especially due to the growing use of technology by fraudsters (KPMG, 2013).

*The PwC's 2014 Global Economic Crime Survey*, which was based on the responses of over 5,000 respondents, stated that accounting fraud had always been one of the major crimes reported in their surveys. In 2014 22% of respondents reported experiencing accounting fraud. On the other hand, according to the study, asset misappropriation is by far the most common economic crime

experienced by the organisations reporting any fraud (69% of cases). In profiling the main perpetrator of the most serious fraud committed, respondents reported that the main fraudster was internal in 56%, and external in 40% of cases. Results of this study indicated that the typical internal fraudster is middle-aged male with a college education or higher who have substantial tenure with the organisation, and with 6 or more years of experience (PwC, 2014).

It is obvious that fraudulent activities are a broad problem encountered by companies across the globe. In confrontation with the fraud it is necessary to establish strong internal control systems, because inadequate internal controls present an opportunity for fraud. Although management is responsible for establishing an effective internal controls system, it is also “in a unique position to perpetrate fraud because it possesses the power to override controls, manipulate records, and facilitate collusion by applying pressure to employees and either enlisting or requiring their assistance” (Center for Audit Quality, 2010, 5).

### **3. Overview of measures for preventing fraudulent financial reporting**

Fraud prevention involves those actions taken to discourage the commission of fraud and limit fraud exposure when it occurs (Institute of Internal Auditors, 2009, 19). Identifying the factors that provided the opportunity for a fraud to occurrence is an important part of preventing similar events from happening again in the future. According to the results of the *Association of Certified Fraud Examiners* lack of internal controls is the most important factor contributing to the fraud occurrence. Additionally, other factors contributing to the fraud occurrence are: lack of management review, override of existing internal controls, poor tone at the top, lack of competent personnel in oversight roles, lack of independent checks/audits, lack of employee fraud education, lack of clear lines of authority and lack of reporting mechanism (ACFE, 2014, 39). PricewaterhouseCoopers study showed that the organization that had not suffered fraud tended to rely on more intangible prevention tools such as codes of conduct or ethical policies. In contrast, fraud victims instituted more tangible measures such as management training and whistleblowing programme (PWC, 2003, 15). Results of KPMG study revealed that large increase in cases involving the exploitation of weak internal controls by fraudsters up from 49 percent in 2007 to 74 percent in 2011 (KPMG, 2011, 10).

Proactive fraud prevention and detection controls are a vital part in managing the risk of fraud (ACFE, 2014, 31). According to the result of survey conducted by *the Association of Certified Fraud Examiners*, the internal audits as a control measure are implemented by large number of organization but they are among the least effective controls in contributing occupational fraud. Such audits were the primary detection method in just 3% of the fraud cases reported, compared to the 7% of cases that were detected by accident. The same research showed that although the use of independent financial statements audits was associated with reduced median losses and duration of fraud schemes, these reductions were among the smallest of all the anti-fraud controls analysed the study (ACFE, 2014, 5). The greatest influence on reducing the losses caused by fraud have: proactive data monitoring/analysis, employee support programs, management review Code of Conduct, internal audit department, formal fraud risk assessments, surprise audits external audit of ICOFR, fraud training for managers/executives and hotline. The most effective anti-fraud controls in reducing the duration of fraud schemes are: surprise audits, proactive data monitoring/analysis, dedicated fraud department, function or team, anti-fraud policy, fraud training for employees, hotline, formal fraud risk assessments, management review, independent audit committee, internal audit department and job rotation/mandatory vacation (ACFE, 2014, 31). The *Association of Certified Fraud Examiners* designed a fraud prevention checklist. This check-list is designed to help organization to test the effectiveness of their fraud prevention measures (ACFE, 2010, 80).

Numerous fraud prevention and detection techniques are utilized to reduce the direct and indirect costs associated with all forms of fraud (Bierstaker, Brody and Pacini, 2006, 523), some of them are: fraud policies, telephone hot lines, employee reference checks, fraud vulnerability reviews, vendor contract reviews and sanctions, analytical reviews (financial ratio analysis), password protection, firewalls, digital analysis and other forms of software technology, and discovery sampling (Carpenter and Mahoney, 2001; Thomas and Gibson, 2003, cited in Bierstaker et. al. 2006, 523). Bierstaker et. al. conducted study in which they investigated the extent to which accountants, internal auditors, and certified fraud examiners use various fraud prevention and detection methods and software, as well as their perceptions about the effectiveness of those techniques (Bierstaker, Brody and Pacini, 2006, 528, 529). According to the results of this study, firewalls, virus and password protection, and internal control review and improvement are quite commonly used to combat fraud, while continuous auditing, discovery sampling, data mining, forensic accountants, and digital analysis software are less often used, despite receiving the high ratings of effectiveness. Due to the fact that the human factor is a crucial element in conducting a fraud it is necessary to introduce a strong ethical culture and tone at the top, provide checks of employees and risk assessments of fraud schemes, implement a strong anti-fraud controls and promote the importance of programme for fraud risk management. In addition, it is necessary to perform the surveillance over the efficiency of anti-fraud controls.

**4. Results of research on the accountants' and auditor' views regarding the effectiveness of fraud prevention controls**

In order to gather information on the effectiveness of fraud prevention controls, a questionnaire survey<sup>1</sup> was conducted (May 27th - July 21th, 2012). Participants, accountants and external auditors assessed, according to their opinion and professional experience, the effectiveness of some specific measures in prevention of fraud, on the Likert scale from 1 to 5 (where 1 means extremely inefficient and 5 means extremely efficient). Accountants and auditors, because of their specific knowledge, can contribute to the creation of successful fraud prevention system. Specific knowledge is not only acquired by formal education, but also by working in practice. Accountants and auditors, who participated in the survey, have many years of work experience (table 1). Therefore their opinions are relevant and have to be considered when making conclusion.

*Table 1 Work experience of the participants*

Work experience (in years)	Number of participants	
	Accountants	Auditors
>10	70 %	42%
6 - 10	16%	24%
1 - 5	11%	29%
<1	5%	5%

*Source: Calculated by the authors*

According to the results of research over the 70% of survey respondents are accountants with more than 10 years of work experience, 16% have between 6 to 10 years, 11% have between 1 to 5 years and 5% are performing accounting in less than 1 year period. As for the auditors in the research period 42% have more than 10 years of experience in the field of auditing, 24% have 6 to 10 years, 29% have 1 to 5 years while 5% have less than 1 year of experience. The participants' perceptions' regarding effectiveness of fraud prevention controls is presented in Table 2.

<sup>1</sup> The survey questionnaires were created in the Survey Monkey programme and respondents were sent a link to the electronic version of the questionnaire via e-mail. Surveyed questionnaires were processed by means of statistical package PASW Statistics, version 18.



**Table 2** Participants' perceptions' regarding effectiveness of fraud prevention controls

Measures for fraud prevention	Accountants		Auditors	
	Rating Average	Response Count	Rating Average	Response Count
Code of Conduct with sanction measures	3,66	130	3,48	46
Control environment with zero tolerance to fraud	4,22	134	3,96	46
Beck up checks of potential employees in the recruitment process	3,82	135	3,48	46
Continuous education of management and employees on measures for fraud preventing and deterrence	3,79	133	3,98	46
Anonymous hotlines	3,25	132	3,96	46
Formal management's review of internal controls	3,77	133	3,72	46
Efficient anti-fraud controls as: job rotation, mandatory vocation and segregation of duties and responsibilities, physical safeguards	3,68	134	4,00	46
Efficient internal controls	3,86	135	3,87	46
Internal audit	3,78	133	3,67	46
Unexpected audit performed by internal auditing	3,62	132	4,02	46
Independent audit committee	3,38	130	3,59	46
External audit of financial statements	4,05	135	3,89	46
Forensic audit	3,43	131	4,02	44

Source: Calculated by the authors

Accountants estimated with the highest rating average that the positive working environment with zero tolerance to fraud, external audit of financial statements, efficient internal control and beck up checks of potential employees in the recruitment process are the most effective measures for fraud prevention. The respondents consider anonymous hotlines as the least effective in fraud prevention. Hotlines are usually considered as measure for fraud detection. External auditors consider forensic audit as the most effective measure for fraud prevention. In addition, unexpected audit performed by internal audit, efficient anti-fraud controls (job rotation, mandatory vocation and segregation of duties and responsibilities, physical safeguards), continuous education of management and employees on measures for fraud preventing and deterrence, as well as the control environment with zero tolerance to fraud are also efficient measures for fraud prevention by external auditors' perception.

## 5. Conclusion

This paper provides an overview of relevant research in the area of fraudulent financial reporting and misappropriation of assets. In addition, the importance of implementing efficient internal controls for preventing fraud has been highlighted. The results of numerous empirical and theoretical research showed that implementation of adequate internal control system is a crucial element in fraud prevention due to the fact that fraud often occurs as the consequence of the poor internal control system. Overall results of the theoretical and empirical part of the paper revealed the information about the most commonly used measures and controls for fraud prevention. These measures can reduce not only the risk of fraud exposure but decrease the fraud costs and reduce the time of fraud duration in cases where fraud has already occurred. The results of this research can be useful in designing the efficient system of fraud prevention in business practice.

## REFERENCES

Association of Certified Fraud Examiners (2010) *Report to the Nation on Occupational Fraud & Abuse*, 2010 Global Fraud Study, ACFE.

Association of Certified Fraud Examiners (2012) **Report to the Nation on Occupational Fraud & Abuse**, 2012 Global Fraud Study, ACFE.

Association of Certified Fraud Examiners (2014) 2014 **Report to the Nations on Occupational Fraud and Abuse**, ACFE.

Beasley, M. S., Carcello, J. V., Hermanson, D. R. (1999) **Fraudulent Financial Reporting: 1987-1997**, An Analysis of U.S. Public Companies. New York: COSO.

Beasley, M. S., Carcello, J. V., Hermanson, D. R., Neal, T. L. (2010) **Fraudulent Financial Reporting: 1998-2007**, An Analysis of U.S. Public Companies. New York: COSO.

Bierstaker, J. L., Brody, R. G., Pacini, C. (2006) **Accountants' perceptions regarding fraud detection and prevention methods**, Managerial Auditing Journal, Vol. 21 No. 5, pp. 520-535.

Center for Audit Quality (2010) **Deterring and Detecting Financial Reporting Fraud - A Platform for Action**. Center for Audit Quality, Washington.

Hall, J. A. (2007) **Accounting Information Systems**. Fifth Edition. Cincinnati: Thomson South-Western College Publishing.

Hernandez, J. R. (2007) **Principles, Processes and Practices of Fraud Prevention**. PhD Thesis. Vrije Universiteit.

Kassem, R., Higson, A. (2012) **The New Fraud Triangle Model**. *Journal of Emerging Trends in Economics and Management Sciences* (JETEMS), Vol. 3, No. 3, pp.191-195, (ISSN: 2141-7024)

KPMG (2011) **Who is the typical fraudster?**, KPMG Analysis of Global Patterns of Fraud.

KPMG (2013) **Global profiles of the fraudster. White-collar crime – present and future**. KPMG.  
McKendall M., DeMarr, B, Ridders, C. J. (2002) **Ethical Compliance Programs and Corporate Illegality: Testing the Assumptions of the Corporate Sentencing Guidelines**. *Journal of Business Ethics* 37(4), str. 367-383.

PricewaterhouseCoopers (2003) **Economic crime survey 2003**, PricewaterhouseCoopers.

PricewaterhouseCoopers (2014) **2014 Global Economic Crime Survey, Economic crime: A threat to business globally**. PwC.

Rezaee, Z., Riley, R. (2010) **Financial statement fraud: prevention and detection, Second edition**, John Wiley & Sons, New Jersey.

Seetharaman, A., Senthivelmurugan, M., Periynayagam, R. (2004): **Anatomy of computer accounting frauds**, Managerial Auditing Journal, Vol. 19, No. 8, pp. 1055-1072.

Singleton, T., Singleton, A., Bologna, J., Lindquist, R. (2006) **Fraud Auditing and Forensic Accounting, 3rd edition**, John Wiley & Sons, New Jersey.

The Institute of Internal Auditors (2009) **Internal Auditing and Fraud, IPPF – Practice Guide**. IIA

The International Auditing Standards Board (IASB) (2009) **International Standard on Auditing No.240: the Auditor's responsibilities relating to fraud in an audit of financial statements**.

Vaassen, E. H. J. (2004) *Accounting Information Systems, a Managerial Approach*, John Wiley & Sons.

Wolfe, D. T., Hermanson, D. R. (2004) *The Fraud Diamond: Considering the Four Elements of Fraud*. *The CPA Journal* 74.12 (2004): 38-42.





**Značaj civilnog  
društva za  
razvoj regije**

**Significance of  
civil society for  
development of the  
region**

**Vesna Vašiček, PhD**

Faculty of Economics and Business, University of Zagreb  
Trg J. F. Kennedyja 6, 10000 Zagreb, Croatia  
Phone: +385 1 238 3408, Fax: +385 1 233 5633  
E-mail address: vvasicek@efzg.hr

**Martina Dragija, PhD**

Faculty of Economics and Business, University of Zagreb  
Trg J. F. Kennedyja 6, 10000 Zagreb, Croatia  
Phone: +385 1 238 3408, Fax: +385 1 233 5633  
E-mail address: mdragija@efzg.hr

**Tatjana Medved, MA**

E-mail address: medved.tatjana19@gmail.com

## THE IMPORTANCE OF DONATIONS IN FINANCING OF NONPROFIT ORGANIZATIONS IN CROATIA

### ZNAČAJ DONACIJA U FINANCIRANJU NEPROFITNIH ORGANIZACIJA

#### ABSTRACT

*Nonprofit organizations are integral part of the society and they have many vital roles but the most important ones include promotion of human health, environmental conservation, protection of human rights, the promotion of democracy and the promotion of education and social empowerment. Despite aforementioned vital roles, nonprofit organizations worldwide face a myriad of problems and challenges in establishing and maintaining financial sustainability. Therefore, the main aim of this paper is to research the importance of donations in financing nonprofit organizations in Croatia due to the fact that donations are along with membership fees, revenues from sales, subsidies, and grants one of most important source of financing of nonprofit organizations. Through the paper authors will analyse main types of nonprofit organizations in Croatia as well as their legal characteristics, accounting treatment and sources of financing. To examine the frequency and types of donations received from young individuals up to 30 years age range, the empirical research based on the online questionnaire was conducted. The research showed that young persons are aware of the importance of donating, volunteering and helping others but there are significant differences in the amount and types of donations.*

**Key words:** nonprofit organization, sources of funding, donations, young people, Croatia

#### SAŽETAK

*Neprofitne organizacije sastavni su dio društva i imaju mnoge vitalne uloge, a najvažnije su vezane uz promociju ljudskog zdravlja, očuvanje okoliša, zaštitu ljudskih prava, promociju demokracije i promociju obrazovanja i socijalno osnaživanje. Neprofitne organizacije diljem svijeta suočene su s čitavim nizom problema i izazova vezanih uz održavanje i postizanje financijske održivosti unatoč prethodno istaknutim vitalnim ulogama. Stoga je glavni cilj ovog rada istražiti značaj donacija u financiranju neprofitnih organizacija u Hrvatskoj budući da su donacije zajedno s članarinama, prihodima od prodaje, dotacijama i subvencijama jedan od glavnih izvora financiranja neprofitnih organizacija. Autori će u radu analizirati vrste neprofitnih organizacija u Hrvatskoj kao i zakonske*

*karakteristike, računovodstveni tretman I izvori financiranja. Kako bi se istražila frekvenција i vrste donacija od strane mlade populacije starosti do 30 godina, provedeno je empirijsko istraživanje bazirano na kratkom upitniku. Istraživanje je pokazalo da su mlade osobe svijesne značaja doniranja, volontiranja i pomaganja drugima, ali ukazalo je da postoje značajne razlike u iznosima i vrstama donacija.*

**Ključne riječi:** *neprofitne organizacije, izvori financiranja, mlade osobe, Hrvatska*

## 1. Introduction

The first usage of the term nonprofit or 'third sector' in Croatia is connected with the coalition of non-governmental organizations that established "Initiative for the Third Sector" in the year 1997 as a campaign against repressive legislation that aims to create a more positive and enabling environment for the citizens' initiative and for non-government organizations. Nonprofit sector is a sector of "private organizations with public purposes" that are based on values such as empathy, philanthropy, altruism, charitable activities, reciprocity and mutuality (Stubbs, 2005).

Nonprofit sector is a collection of professional organization that are formally constituted, non-governmental in the basic structure, self-managed, nonprofit distributed, and voluntary to some meaningful measures (Salamon, Lester and Helmut Anheier, 1992). The power of nonprofit sector essentially depends on the ability of individual nonprofit organization to cooperate. All organizations that function in a society can be divided into the *state (government) organizations (public sector)*, these are the ones established by the Government, and *non-governmental (NGO) organizations (private sector)*. Non-governmental nonprofit organizations are independent organizations that are established by group of citizens with different motives, goals and interests have established (Mitic, Najdanović, 2012). So, on the one hand, we have subjects that are profit orientation, and on the other we have a nonprofit subjects, various public institutions intended exclusively for meeting the social needs and public purposes (Eerma, Friedrich and Mošnja-Scissors, 2012).

One of the key problems that occurs in the business of nonprofit organizations is how and where to find the resources to finance a particular program or project and to perform basic activities of nonprofit organizations. Nonprofit organizations are therefore forced to constantly seek and combine existing sources of funding and finding new ways to settle the funds for the financing of activities, projects and programs, because a nonprofit organization that has ensured funding, can easier and simpler achieve its sustainability and long-term goals (Vašiček, Jermen, 2011).

## 2. Basic types of nonprofit organizations in Croatia and their legal characteristics

Among the basic types of nonprofit organizations in Croatia are considered **institutions, associations and trusts and foundations.**

According to the Law on Institutions (Official Gazette, 2008), an institution is established in order to permanently perform activities of education, science, culture, information, sports, physical culture, technical culture, child care, health, social welfare, care for the disabled and other activities. The most important feature is that institution is not performed for gaining profit. Institutions under the aforementioned Law (Official Gazette, 2008) acquire legal personality by registration in the register of institutions, and lose a legal entity by deleting from the register. Institutions can be established by domestic and foreign physical and legal persons by the Act on the establishment of an institution. The institution has a name under which it performs its activities, operates and participates in legal transactions, and the name must indicate its activities, and must be in the

Croatian language written in the Latin alphabet. The institution is responsible for the obligations with all its assets, and the founder is responsible solidary and unlimited for its obligations. Institution may have one or more branches (department, institute, center, etc.). Work of an institution is public, and its leader is the director, unless otherwise specified.

The association in terms of the Law on Associations (Official Gazette, 2014) is any form of free and voluntary association of physical or legal persons, for the protection of their interests or promotion of their beliefs and goals. The association has statutes and a legal status begins on the day of registration in the Register of Associations of the Croatian. The activity of the association is based on the principle of independence, which means that the association independently defines its area of activity, aims and activities, its internal structure and independently carries out activities which are not contrary to the Statue and the Law. Also, association based its activities on the principle of transparency, the principle of democratic structure, the nonprofit principle and the principle of free participation in public life. The Law on Associations (Official Gazette, 2014) also states that an association can be established by at least three founders. The founder of the association can be any legally competent physical person and legal persons. Also, any physical or legal person may become a member of the association, in accordance with the law and the statute. The Association shall keep a list of its members who must always be available for inspection to all members and to the competent authorities at their request. Name of association shall be in Croatian language and Latin script, and may contain words in a foreign language or into a dead language. For his obligations Association is liable with its all assets, and members of the association and the members of its bodies are not responsible for its obligations. According to the Croatian Ministry of Public Administration (the Register of Associations), in Croatia, in August 2015 there was 52,249 active associations.

According to the Law on Trusts and foundations (Official Gazette, 2011), the trust is an asset held for the purpose to permanently serves the accomplishment of some generally beneficial or charitable purposes, while the foundation is assets that serves for realization of a general or charity for a certain period of time. Trust in terms of the Law on Trusts and foundations (Official Gazette, 2011) may be established by domestic or foreign individual or legal entity, and are considered to be established by entry into the foundation register. The name of the trust is determined by the treasurer in the founding law. The trust property can be used to achieve the purpose for which the foundation was established. Trusts help groups or individuals who need help. This is also one way that donor can give money to those with low income and the economic problems. Unlike associations that consist of members, trust assets is sufficient to carry out the program. Trusts generally do not have staff people that receive salary or remuneration. Tasks of trusts are carried out on a voluntary basis. Scholarship trusts appear to be a priority area for the development of foundations (Bežovan, 2008). Trusts in terms of the Law on Trusts and foundation (Official Gazette, 2011) are assets assigned to a period of time, but not more than five years, that serves the accomplishment of some generally beneficial or charitable purposes. The Trust will be converted into a foundation when its revenues are no longer sufficient for permanent fulfillment of the trust's purpose, even with the changed statute, or by the use of the underlying asset of the trust predictable as possible fulfillment of its purposes for at least another ten years, unless the founder chooses some other decision. Trusts and Foundations are legal persons.

### **3. Sources of funding of nonprofit organizations and accounting treatment**

According to the Budget Act (Official Gazette, 2015) funding sources are groups of revenues and receipts from which certain types of expenses and expenditures will be settled. Nonprofit organizations according to sources of funding can be divided into two groups: government and non-government. Government nonprofit organizations are directly financed from the budget, or in other words from the fiscal and parafiscal revenues. Non-government nonprofit organizations are



primarily financed from voluntary contributions, donations, grants, subsidies, membership fees, and can be also funded from sales of products. Some programs can be financed in accordance with regulations from the state budget, from the budgets of local and regional self-government and regional funds (Vašiček, Jermen, 2011).

Nonprofit organizations need financial resources that differ by types and by sources (ie, foundations, individual donations, etc.). Also, nonprofit organizations need non-earmarked funds that can be easily converted to cover financial priorities (flexibility). Financial resources at the long term are available to enable the continuity of the organization and strategic planning in the long term (longevity), and need sufficient funds to meet their basic needs and savings or reserve funds to ensure the safety of inflows of money from year to year (quantity) (Davis, L. et al., 2004).

The membership fee is the only sure and constant source of funding of nonprofit organizations. It is often the only source of funding of nonprofit organizations, especially at the very beginning of the organization business. As organizations expand their business, funds from membership fees are insufficient, so they are forced to turn to new sources of financing. From the accounting point of view membership fee of nonprofit organizations, along with donations, aids and contributions are non-reciprocal revenues because they are not realized as result of direct deliveries of goods and services and there is no counteraction. It is important to highlight that nonprofit organizations are also eligible for financing from bank loans (Vašiček, Jermen, 2011).

Revenues from games of chance that are under the Law on games of chance (Official Gazette, 2014) are significant source of revenues for nonprofit organizations that finance programs of organizations that promote the development of sports, contribute to the fight against drug abuse and all other forms of addiction, dealing with social and humanitarian activities, and meeting the needs of disabled persons, technical culture, culture, extra-institutional education and upbringing of children and young people, and contributing to the development of civil society. To fund aforementioned programs it is allocated 50% per annum and monthly fees of organizing games of chance in casinos, 50% per annum and a monthly fee of betting games, 50% per annum and monthly charge of organizing games of chance, 50% monthly fee from the arrangement lottery games, and 50% of the profit of the Croatian Lottery Ltd.

Nonprofit organizations in Croatia are focused on self-financing only after exhausting all other sources of financing or lose their planned funds (Vašiček, Jermen, 2011). But self-financing should not be seen as separate, isolated strategy for financing nonprofit organizations, but as one of the factors that can contribute to the overall financial and organizational sustainability (Davis, L. et al., 2004).

Funding framework is defined by the legislation and regulations related to funding opportunities and business of individual nonprofit organizations. Trusts are financed through assets that are given to them for performing basic purposes (Vašiček, Jermen, 2011). Funds for the work provided by the founders of the institution, acquired by offering services and selling products or from other sources under the Law on Institutions (Official Gazette, 2008) represent the assets of the institution. If institution generates profit in performing its activities, that profit shall be used exclusively for the performance and development of the activities of the nonprofit institution. The founder of the institution may decide that the profit of the institution will be used to develop and carry out activities of other institutions where he is founder. Law on Associations (Official Gazette, 2014) includes in the asset of association all funds that the association gained from membership fees, voluntary contributions and gifts, as well as funds that associations obtain performing of activities in order to achieve their objectives. The association may dispose of its assets only for achieving the objectives and carrying out activities. The programs and projects of interest to the common good in Croatia carried out by the association may be financed from the state budget, the budget of local and

regional (regional) governments, EU funds and other public sources. The most common sources of financing of Croatian associations are government bodies and local and regional governments. It is important to highlight that associations generate more donations from home than from foreign organizations (Vašiček, Jerman, 2011).

In this paper special focus is put on donations and empirical research is conducted in order to reveal the level of donations from young population in Croatia. Therefore hereinafter authors will separately research donations and their accounting treatment as significant source of funding of nonprofit organizations.

### **3.1. Donations as a sources of funding of nonprofit organizations**

Regulations on the nonprofit accounting and chart accounts (Official Gazette, 2015) has defined the concept of donations as a liquid and/or capital transfers of funds to foreign governments and international organizations, local and regional (regional) governments, households, businesses and other end users. Current donations include also transfers in nature such as food, clothing, blankets, and medicines. Nonprofit organizations may receive a donation from the budget, from foreign governments, international organizations, companies, citizens and households, and can be in cash, resources and services (Vašiček, Jerman, 2011), or may be financial and non-financial nature. Generally speaking, according to Helmut K. Anheier (2005) there are three basic types of resources: cash, such as grants, donations, or income from sales and fees for services; in goods, such as donated food; and in labor, and paid and voluntary work. In Croatia, domestic natural persons - citizens and domestic legal entities - enterprises are most common as donors, while local and regional governments rarely occur as donors (Bežovan, 2008). It is mentioned before that also time can be donate to nonprofit organizations such as helping the needy, distribution and serving of food, visiting the sick or cleaning local parks, and donating time is called volunteering (Helmut, Anheier, 2005). The term volunteer has origins in the Hebrew language and in translation would mean "the one who wants to give." Volunteer or voluntary and free work for the common good or for the benefit of other people, is one of the foundations of civil society, as it promotes the noblest values of humanity: freedom, peace, safety and justice for all people. A key feature of voluntary work is voluntary, and the absence of coercion of any kind, while others believe that it is the absence of financial compensation. In the next chapter, authors will present empirical research regarding preferences of young people for donations and voluntary work in Croatia.

### **3.2. Accounting treatment of donations**

A group of accounts 35 - Income from donations, according to the Regulations on the nonprofit accounting and chart accounts (Official Gazette, 2015) consist of cash or other assets, without repayment or counterpart obligations. Incomes from donations are recognized upon receipt of cash or non-financial assets of companies and individuals, therefore on cash basis. Donations at the time of receiving are recorded to the group of accounts 35 according from which is donation received and can be obtained from the state budget, the budget of local and regional (regional) governments, foreign government and international organizations, from enterprises and other legal entities and the citizens and households (Vašiček, 2010).

Revenues from donations belong to the non-reciprocal revenue since the same are not realized as a result of direct deliveries of goods and services. Non-reciprocal revenues are recognized in the reporting period in which they are applied, provided or collected by the time when the presentation of financial statements for the same period is prepared. If non-reciprocal revenues are not collected, then they are not recorded as positions in the balance sheet because for income from donations we cannot record receivables.

By the Law on financial business and accounting of nonprofit organizations (Official Gazette, 2014) is defined that accrual accounting means that donations associated with the execution of contracted programs (projects and activities) are recognized in the balance sheet as deferred income with revenue recognition in the reporting period in proportion to the costs implementation of the agreed program (projects and activities), and donations related to the non-financial assets that are subject to amortization recognized in the balance sheet as deferred income, with the recognition of revenue in the reporting period on a systematic basis in proportion to the costs of the use of non-financial assets during the period of use.

#### **4. Research on the frequency of donating of the young population in Croatia**

As it was mentioned in previous paragraph, donations are one of very important sources of financial and material resources for nonprofit organizations. Donations can be from different sources: from the budget, from foreign governments and international organizations, companies and other legal entities and citizens and households. The empirical research "Frequency and motives for donating among young people" was conducted to determine whether the young people in Croatia up to 30 years age range have the possibility for financial and non-financial donations.

##### **4.1. Methodological aspects of empirical research**

Young people under age 30 include pupils, students, unemployed and newly employed persons. For those individuals, it is assumed that in today's turbulent world they do not have time to participate in the work of nonprofit organizations and donate their time or money.

For the selection of respondents authors used the appropriate sample. The populations of this research are young people under age 30 living on Croatian territory, i.e. pupils, students, unemployed and employed persons. The only condition that the respondents have to meet is to have 30 years or less. The sample size was 200 respondents, of which 138 females and 62 male persons. The ratio of male and female participants is 69:31. The survey covers the following employment situation: pupil (N = 6), student (N = 113), unemployed (N = 27) and employed (N = 54).

For the purposes of this research a questionnaire was related to socio-demographic characteristics and personal views of individuals related to the donation. The survey was conducted via the Internet. The questionnaire was prepared in the online Google Forms, which is appropriate for these and similar purposes. It greatly simplifies the design of the survey and their distributing, or receiving and analyzing responses. Estimated time for filling out questionnaire was to 5 minutes. The questionnaire contains 12 questions and from the total number of questions five questions are focus on socio-demographic characteristics of the respondents, and 7 questions are about their habits and frequency of donating, as well as their motives for donating. The research data were analyzed using Microsoft Excel program.

##### **4.2. Results of conducted empirical research**

The sample size was 200 respondents, of which 138 females and 62 male persons. The ratio of male and female participants is 69:31. The youngest participant was aged 16 and the oldest 30 years, which is the upper limit of the required sample, and the average age of participants was 22.5 years. See the table below.

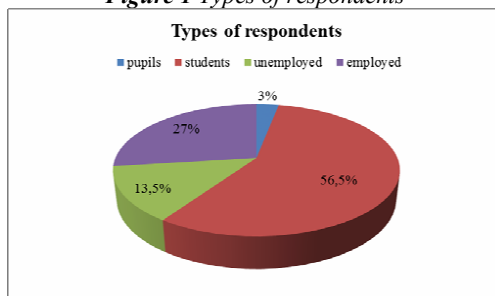
**Table 1** Statistical data about the sample

	<b>N</b>	<b>Min</b>	<b>Max</b>	<b>M</b>	<b>SD</b>	<b>Mod</b>
<b>Age</b>	200	16	30	22,5	2,54	21

Source: Authors

Respondents were divided by employment status to pupils, students, unemployed and employed persons. Their ratios are presented in the figure below from which is obvious that the students have the biggest ratio in the sample.

**Figure 1** Types of respondents



Source: Authors

The total average monthly household incomes of surveyed participants were shown in five categories. The first category was in the range of 0 to 5,000 kn, second category from 5,000 to 10,000 kn, the third had a range of 10,000 to 20,000 kn, fourth from 20,000 to 30,000 kn, and the last one included people whose average monthly income amounted to more than 30,000 kn. The data obtained are given in Table 2. and it can be seen that the most respondents are in the second category.

**Table 2** Average monthly household income

<b>Range</b>	<b>N</b>	<b>%</b>
0 – 5.000 kn	49	24,5%
5.000 – 10.000 kn	86	43%
10.000 – 20.000 kn	49	24,5%
20.000 – 30.000 kn	8	4%
više od 30.000 kn	8	4%
<b>Total</b>	200	100%

Source: Authors

Moreover, table 3 presents average monthly income of respondents and results are expected due to the fact that the target population are young people and therefore 48,5% of respondents have monthly income up to 1.000 kn.

**Table 3** Average personal monthly income

<b>Range</b>	<b>N</b>	<b>%</b>
<b>0 – 1.000 kn</b>	<b>97</b>	<b>48,5%</b>
1.000 kn – 3.200 kn	50	25%
3.200 kn – 5.600 kn	33	16,5%
više od 5.600 kn	20	10%
<b>Total</b>	200	100%

Source: Authors

Previous explanations of socio-demographic characteristics of the sample are essential in defining the profile of a person younger than 30 years in the Republic of Croatia who usually donate and participate in the work of some nonprofit organizations. Donating does not mean just giving funds, goods, clothing and the like, but also giving their time, or volunteering, most frequently in a nonprofit organization.

The hypothesis for our paper states that young people in Croatia do not participate in the work of nonprofit organizations. For that purpose, we have used one-tail z test about a population proportion for the year 2015. It is assumed that more than 70% of respondents do not participate in the work of nonprofit organizations. Thus the test hypotheses are:  $H_0... p \leq 0.70$ ,  $H_1... p > 0.70$ . Conducted statistical test confirmed that assumption. In other words we reject the null hypothesis at significance level of 5% (test statistic=4,1662, p-value = 0.0000). Consequently, at significance level of 5% we reject the assumption that 70% or less young people do not participate in the work of nonprofit organizations. Respectively, we can accept the assumption that the percentage of young people in Croatia that do not participate in the work of nonprofit organizations is higher than 70%.

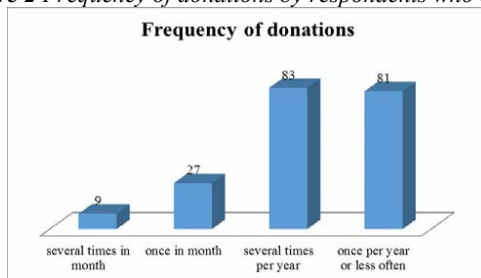
Out of the 33 respondents who participate in some nonprofit organizations, 13 of them (39.4%) volunteer in some of the volunteer fire society, 5 of them (15.15%) participate in the work of UNICEF and 15 of them are involved in the work of other nonprofit organizations or combined in several nonprofit organizations.

In the work of nonprofit organizations the most involved respondents are those with total average monthly income of households amounted from 20,000 to 30,000 kn (25% of the category), and respondents whose total average monthly household income amounts to more than 30,000 kn (25% of this category), while looking at personal average monthly income in the work of most nonprofit organizations are involved respondents whose personal average monthly income is in the range of 3200-5600 kn (33,33% of this category).

The highest motives for participation are helping others and a sense of happiness because it helps those who do not have a sense of fulfillment, belonging and satisfaction, hanging on various tours and organized activities, new friends and above all friendship.

The frequency of donation by respondents is shown on the figure below. It is obvious that most respondents donate several times per year, once per year or less often.

*Figure 2 Frequency of donations by respondents who donate*



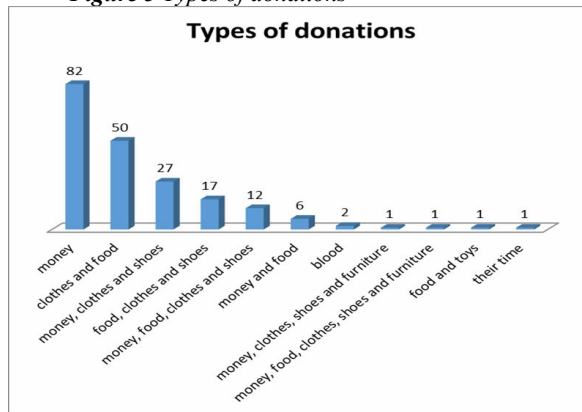
Source: Authors

From the 83 respondents who donate a few times per year, usually donate persons whose total average monthly income of households amounted to 10,000 to 20,000 kn (46,94% of the total category), while at least donate respondents whose total average monthly household income is higher than 30,000 kn (12,5% of the total category). Looking at the average personal monthly

income, several times per year donate respondents whose personal average monthly income is in the range of 1000-3200 kn (46% of this category).

From the 200 respondents, 82 (41%) donate only money, which is the most common answer, 5 respondents (2.5%) donated food, 50 (25%) respondents donated clothing and shoes, while none of the respondents donates furniture. Food, clothes and shoes donated by 12 (6%) respondents, money and food donated 6 (3%) respondents, money, clothes and shoes donated by 27 (13.5%) respondents, money, food, clothes and shoes donated 12 (6 %) respondents, money, shoes, clothing and furniture donated 1 (0.5%) of the respondents, the same as the one (0.5%) respondent donating money, food, shoes, clothes and furniture. 2 (1%) persons alleged to donate blood, 1 (0.5%) people stated that donate food and toys for cats, and 1 (0.5%) people stated that donates training and assistance with daily activities, or your time. These data are presented in figure 3.

**Figure 3** Types of donations



Source: Authors

When we asked how much is the average amount of the donation when donating money, 176 respondents gave their answer (88%), but it can be concluded that the remaining 24 respondents (12%) had never donated money. The most common amount is 100kn, which prompted 44 people which is 25% of the total number of respondents who answered this question. Other amounts vary in the range of 1 kn to 2,000 kn. The average donation of all respondents together amounted to 119 kn.

**Table 4** Average amount of donation when respondents donate money

kn	1	5	6	10	15	20	30	40	50	70	100	200	300	500	800	1000	2000
N	2	4	2	36	2	21	7	1	31	1	44	12	2	4	1	4	2
%	1,1	2	1,1	21	1,1	12	4	0,5	18	0,5	25	7	1,1	2	0,5	2	1,1

Source: Authors

From conducted empirical research we can draw some relevant conclusions. First of all, it is obvious that most of young people in Croatia are not included in the work of the nonprofit organization through their participation (only 33 respondents from 200 are included) . But it is also evident that Croatian young people are tending to donate money (41%) or food and clothes (25%) several times per year to once per year or less.

It is interesting to compare those results with the Millennial Donors Study, Achieve and Johnson, Grossnickle and Associates (JGA 2011) that received survey responses from nearly 3,000 people

between the ages of 20 and 35 from across the United States about their giving habits and volunteer preferences. The most important findings of this study are (JGA 2011):

-93% of surveyed Millennials gave to nonprofit organizations in 2010, with 21% giving \$1,000 or more during the course of the year, but the bulk of giving was distributed in small increments to many organizations,

- 79% of respondents volunteered for organizations in 2010, with the primary obstacle to volunteering being a lack of time, which was noted by 85% of participants who did not volunteer in 2010,

-19% of people who gave \$1,000 or more volunteered once a week or more, while only 11% of people who donated less than \$1,000 volunteered that often.

-40% said they would be interested in joining a young professional organization, and 44% were unsure.

So, if we compare results of this research with the empirical research that was conducted in Croatia we can conclude that young people in Croatia are not aware of the importance of donations, especially in the context of voluntary work.

## 5. Conclusion

Non-profit organizations play a vital role in society. Moreover, they can serve as a link between individuals and the society in which they live. In accordance with their voluntary character, nonprofit organizations ensure that their nonprofit interests are available to the public. It is also expected that nonprofit organizations will innovate and encourage changes in society.

Nonprofit organizations have a continuing need to collect financial and material resources in order to finance activity for which they are established. Donations are one of the most important sources of funds for nonprofit organizations. It is desirable that the nonprofit organization has its permanent donors that are familiar with the results of the organization, or the purposeful use of funds. Attracting of new donors and achieving sufficient visibility of nonprofit organizations is a continuous mission of nonprofit organizations and it is inevitable for the survival of nonprofit organizations. Nonprofit organizations should do more to promote their projects in order to attract a larger number of volunteers and thus larger amounts of donations.

The conducted empirical research showed that young persons in Croatia are not included in the work of nonprofit organization, but nearly half of respondents donate money or clothes and food. The frequency of these donations is moving from several times per year to once per year or less. But when we compare this with the research that was conducted in the United States regarding their giving habits and volunteer preferences we can conclude that young people in Croatia are not aware of the importance of donations, especially in the context of voluntary work.

We as authors believe that is necessary to build and maintain trust between nonprofit organizations and young people in Croatia, by showing clearly how donations can make a difference, articulating where money go, and creating opportunities for young people to get involved, through volunteering, participating in conversations related to strategic direction and helping to spread the word about the cause.

## REFERENCES

Bežovan, G. (2008) Zaklade u Hrvatskoj – uloga, razvoj i postignuća. *Revija za socijalnu politiku*, 15 (3), str. 455-478.

Helmut K. Anheier (2005) *Nonprofit Organizations: Theory, Management, Policy*. Abingdon, Oxon: Routledge

JGA (2011) Millennial donors report 2011, online, available: [http://fi.fudwaca.com/mi/files/2015/04/MD11\\_Report.pdf](http://fi.fudwaca.com/mi/files/2015/04/MD11_Report.pdf) [accessed 18.10.2015.]

Ministarstvo uprave Republike Hrvatske - *Registar udruga*, online, available: <https://registri.uprava.hr/> [accessed 18.10.2015.]

Official Gazette (2008) Zakon o proračunu. Zagreb

Official Gazette (2014) Zakon o udrugama. Zagreb: Narodne novine d.d., (74)

Official Gazette (2015) *Pravilnik o izvještavanju u neprofitnom računovodstvu i Registru neprofitnih organizacija*. Zagreb: Narodne novine d.d., (31)

Official Gazette (2015) *Pravilnik o neprofitnom računovodstvu i računskom planu*. Zagreb: Narodne novine d.d., (1)

Salamon, Lester M. i Helmut K. Anheier (1992) In Search of the Nonprofit Sector II: The Problem of Classification. *Working Papers of the Johns Hopkins Comparative Nonprofit Sector Project*, Baltimore: The Johns Hopkins Institute for Policy Studies, 3

Stubbs, P. (2005) Pojmovnik civilnog društva: treći sektor. *Nacionalna zaklada za razvoj civilnog društva: Civilno društvo.hr*, 2 (3/4)

Vašiček, V., Jermen, A. (2010) Obilježja i značaj planiranja u neprofitnim organizacijama. *RIF-ov časopis za računovodstvo, reviziju, financije i pravo u sustavu proračuna i neprofitnom sektoru HZRIFD*, 5 (10), str. 20-30.

Vašiček, V., Jermen, A. (2011) Izazovi u financiranju neprofitnih organizacija. *RIF-ov časopis za računovodstvo, reviziju, financije i pravo u sustavu proračuna i neprofitnom sektoru HZRIFD*, 6 (11), str. 35-46





**Regionalni razvoj  
- izazovi i prilike**

**Regional  
development  
- challenges  
and opportunities**

**Mato Bartoluci, PhD, Full Professor**

University of Zagreb, Faculty of Economics & Business / Department of Tourism,  
J.F. Kennedy Square 6, HR 10000 Zagreb, Croatia  
Phone: +385 1 238 3471, Fax: +385 1 233 5633  
mbartoluci@efzg.hr

**Zvezdana Hendija, PhD, Associate Professor**

University of Zagreb, Faculty of Economics & Business / Department of Tourism,  
J.F. Kennedy Square 6, HR 10000 Zagreb, Croatia  
Phone: +385 1 238 3267, Fax: +385 1 233 5633  
zhendija@efzg.hr

**Mateja Petračić, graduate oec.**

Karlovac University of Applied Sciences,  
J.J. Strossmayera Square 9, HR 47000 Karlovac, Croatia  
Phone: +385 91 513 7135  
mateja.petracic@vuka.hr

**MANAGING SUSTAINABLE RURAL TOURISM DEVELOPMENT IN  
EASTERN CROATIA**

**UPRAVLJANJE ODRŽIVIM RAZVOJEM RURALNOG TURIZMA  
U ISTOČNOJ HRVATSKOJ**

***ABSTRACT***

*The goal of this paper was to analyze the current status of rural tourism in Eastern Croatia and to identify possibilities, guidelines and methods of its sustainable development. The research has shown that rural tourism in Croatia falls behind the sun-and-beach holiday tourism in coastal Croatia and that numerous and diverse natural and social resources in Eastern Croatia are insufficiently employed, especially in the eastern part of the country. Past research of rural tourism in continental Croatia relied on individual entrepreneurial initiative and scarce funding resources, so that consequently a heterogeneous and fragmented rural tourism offer, based on various tourism forms and special interest tourism types, has developed in an unorganized way. Since the area in question is ecologically preserved and its resources need to be protected for future generations, the issue of rural tourism development unequivocally introduces the concept of sustainable development based on the balance of economic, ecological and social sustainability. From these results the basic hypothesis of this paper is derived that long-term sustainable development of rural tourism in Eastern Croatia may be provided only through integrated tourism offer of special interest tourism and that it is necessary to manage its development at the level of homogeneous region Eastern Croatia.*

*The paper used for general scientific methods such as desk research and for conducted primary research method of descriptive statistics was used.*

**Key words:** *sustainable rural tourism development, managing tourism development, integrated tourism offer, Eastern Croatia*

## SAŽETAK

*Cilj rada je provesti analizu postojećeg stanja ruralnog turizma u Istočnoj Hrvatskoj, te utvrditi mogućnosti, smjernice te načine upravljanja njegovim održivim razvojem. Istraživanje je pokazalo da ruralni turizam u Hrvatskoj zaostaje za kupališno-odmorišnim turizmom primorske Hrvatske te da se nedovoljno koriste brojni i raznoliki prirodni i društveni resursi kojim kontinentalni dio Hrvatske obiluje, posebno u istočnom dijelu zemlje. Dosadašnji razvoj ruralnog turizma u Istočnoj Hrvatskoj bio je uglavnom prepušten individualnoj poduzetničkoj inicijativi i oskudnim izvorima financiranja pa se stihijski razvila heterogena i usitnjena turistička ruralna ponuda temeljena na različitim vrstama i specifičnim oblicima turizma. Budući da je riječ o ekološki očuvanom prostoru čije je resurse potrebno očuvati i za buduće generacije u razvoju ruralnog turizma nužno se nameće koncept održivog razvoja, koji se temelji na ravnoteži ekonomske, ekološke i društvene održivosti. Iz toga proizlazi temeljna hipoteza ovog rada da se dugoročni održivi razvoj ruralnog turizma u Istočnoj Hrvatskoj može osigurati kroz integriranu turističku ponudu različitih specifičnih oblika turizma, te da je potrebno upravljati njegovim razvojem na razini homogene regije Istočne Hrvatske.*

*U radu su korištene opće znanstvene metode poput istraživanja za stolom, a za provedeno primarno istraživanje korištena je metoda deskriptivne statistike.*

**Ključne riječi:** *održivi razvoj ruralnog turizma, upravljanje razvojem turizma, integrirana turistička ponuda, Istočna Hrvatska*

### 1. Introduction

Tourism is traditionally developed in Croatian coastal area which stretches near the Adriatic Sea across seven out of the total of 21 counties in Croatia. Although these seven counties stretch across less than a half (45%) of the total Croatian territory, 98% of the total tourism revenue, expressed in overnights, is realised in them (Bartoluci, Kesar, Hendija, 2014:1287). Only about 2% of the total tourism revenue is realised in continental Croatia, i.e. in 13 counties and in the City of Zagreb, the country's capital. The continental counties in Croatia are: Bjelovar-Bilogora County, Brod-Posavina County, Karlovac County, Koprivnica-Križevci County, Krapina-Zagorje County, Međimurje County, Osijek-Baranja County, Požega-Slavonia County, Sisak-Moslavina County, Varaždin County, Virovitica-Podravina County, Vukovar-Srijem County and Zagreb County.

Since the topic of this paper addresses the analysis of rural tourism in Eastern Croatia, we have focused on the aforementioned<sup>5</sup> continental predominantly rural counties, because the population in most places in them, apart from the counties' seats, does not exceed 100,000. In other words, most results of past research into the development of rural tourism in continental Croatia stress that this Croatian area has extraordinary natural and social potentials that are insufficiently valued in Croatian tourism (Bartoluci, 2013; Ružić, 2009; Bartoluci, Kesar, Hendija, 2014; Petrić, 1996; Bartoluci, Petračić, 2015 and many other authors).

To interpret secondary data sources, general scientific methods such as deduction and analyses were used, whereas descriptive statistics was employed for the primary research that has been conducted. Secondary data were collected from official statistical reports, scientific and professional papers of Croatian and foreign authors, and from relevant Internet sites.

The main hypothesis of this research was that long-term sustainable development of rural tourism in Eastern Croatia may be provided only through integrated tourism offer of special interest tourism types and that it is necessary to manage its development at the level of homogenous region Eastern Croatia. To confirm this hypothesis, the primary research has been conducted by means of a structured on-line questionnaire. An e-mail was sent to prospective subjects and in it they were

asked to anonymously participate in the questionnaire between 10 October and 9 November 2015. Due to a relatively low number of experts in Croatia who focus on this subject area, only 31 subjects participated in the study. Most of them (58%) were experts in tourism who worked in scientific and/or educational institutions, 26% worked in tourist offices, 7% in the tourism offer system (travel agencies, hotels and the similar service renderers in tourism), 6% in public administration, i.e. in the Ministry of Tourism, government administration offices etc., and 3% in public institutions such as national parks' headquarters, institutions of culture and the like. Although the structured questionnaire contained the several subgroups, only three were relevant for the topic and its analysis in this paper were interpreted. The subjects were asked to mark the level of their agreement with any given statement on a five-point Likert-type scale ranging from one (*I completely disagree*), denoting small degree of tourism development and low importance level for tourism, to five (*I completely agree*), denoting high degree of tourism development and high importance level for tourism. Results of the conducted empirical research are presented in this paper both in comparison with opinions and conclusions of some other authors who have researched into the development of continental tourism both on the global level and in Croatia, and in comparison to a similar research conducted by Bartoluci, Kesar and Hendija (2014:1281-1298) in the year 2014. This paper investigates sustainable rural tourism development in Eastern Croatian and management mode for its development.

## 2. Features of rural tourism

Although rural tourism is a subject matter to many discussions in publications written by various experts all around the world, a firm consensus on defining its concept has not been reached yet (Petrić, 2006:140; Nair, 2015:314; Pearce, 1989:21; Lebe, Milfelner, 2006:1137). A more thorough investigation of rural tourism has begun only recently (Gartner, 2014:151). Reasons for this might be sought, among other things, in highly expressed varieties of a rural region under consideration which are the result of its climatic characteristics, land configuration, geomorphological features and flora, i.e. in its key natural factors, as well as in various specific social characteristics. If only the rural area in Croatia be analysed, compelling differences can be observed between, for example, Slavonia on the one hand and Gorski Kotar on the other, between Medimurje and HrvatskoZagorje, or Podravina and Žumberak, as well as among other rural areas in continental Croatia (Ružić, Demonja, 2013:45). These differences are even more expressed around the world. Consequently, researchers from all areas of the world try to formulate definitions of rural tourism that would be pertinent for the corresponding rural regions. Particularly big differences in conceptualising rural tourism are to be found between highly developed countries and those which are at the onset of their economical development (Nair, 2015:318).

In Jafari's well known *Encyclopedia of Tourism* (2000:514) a description by Janet H. Momsen may be found according to which rural tourism is defined as a part of the total tourism offer—this offer uses countryside as its principal attribute of attraction, and it is the countryside that is visited by urban dwellers more frequently in order to search for outdoor recreation and tranquility than to be linked with nature. This definition neglects elements of ecotourism that is also present in rural areas where motivation for visiting them is to be found in the wish to visit the natural protected areas.

According to the World Tourism Organization (UNWTO), the United Nations agency, there are four key elements that determine rural tourism—these are: natural resources (rivers, lakes, mountains, forests, etc.), rural way of life (businesses, local events, gastronomy, traditional music, etc.), rural heritage (traditional architecture, history, castles, churches, villages, etc.) and rural activities (horseback riding, hunting, fishing, walking, biking, water sports and the whole series of outdoor activities (UNWTO, 2013).

Rural tourism in Croatia may be defined as tourism evaluation of agricultural areas, natural resources, cultural heritage, rural settlements, local traditional customs and products through specifically fashioned tourism products that are representative of locality identity and that meet the demands of guests in terms of accommodation, food and drinks, recreation, animation and other services for the purpose of local sustainable development (Bartoluci, 2013:190).

Ružić(2009:28) underlines that rural tourism instigates a series of economic and extra-economic activities in a rural environment, such as: growing natural and healthy food, agricultural production, active attitude towards nature (participation of tourists in agricultural production on family farms), return to natural values (spending time outdoors in unpolluted nature) and environment portrayal of countryside lifestyle (architecture, flora and fauna, traditional cultures, folk costumes, etc.).

This type of tourism is a combination of small entrepreneurial projects which are owned locally and which are under control of local administration (Bartoluci, 2013:452). Rural tourism is considered a pure economic activity which does not devastate the environment as do industry, mining, deforestation, intensive farming, etc. (Ibidem:190). The main strength of rural tourism is that it is associated with ecological sustainability and that together with a socially responsible development it realises a series of economic and social effects in a local community in which it expands. Although positive economic effects of its development are evident, authors regularly emphasise that the key components of rural tourism are culture, heritage and tradition (George et al, 2009:36; Roberts, Hall, 2004:51).

The basic problem of rural destinations is their discrete, fragmented offer – namely, instead of pursuing a joined promotion of a tourism destination, for fear of competition they venture alone onto the tourism market and put their products and/or services on this market on their own. This is why it is very important for rural tourism to develop an integrated rural product, to invest in education of local inhabitants and to conduct mutual marketing of rural areas (Lebe, Milfelner, 2006:1141). In other words, population in rural areas has on average a lower education level than in urban environments.

However, to be sure to provide positive effects of rural tourism development in a particular area, appropriate management of this area must be arranged. Unfortunately, not enough attention is paid to this matter either in literature or in practice, which is expressly emphasised by Pröbstl-Haider, Melzer and Jiricka (2014:217). “Despite a clearly expressed need to manage destinations, i.e. rural area, scarce research into this subject matter exists.” Haven-Tang and Jones (2012:31) have found that rural tourism often develops disconnectedly and in various ways, and that it is rarely based on a development-related document, such as a strategy of rural tourism development. Such a situation is a direct consequence of a low level of awareness of small local entrepreneurs and other participants in a destination of the need to develop and apply a coherent local development policy that would employ all attributes of a destination in a positive way by making it a competitive and sustainable destination whose development is based on sustainability of local natural environment, beautiful landscape, arts, local businesses, food, beverages, traditional skills, etc. The greater the numbers of participants in the development of rural tourism in a particular rural environment, better are the effects of this development (Pröbstl-Haider, Melzer, Jiricka, 2014:218).

Due to an outstandingly multifaceted and interdisciplinary character of tourism in rural areas, more multifaceted and of a more expressed interdisciplinary character than in all other tourism forms and types, a holistic approach to development management should be applied, and an integrated tourism product of a whole broad area should be created. Namely, it is only this type of a developmental concept that has the opportunity of future development (Lebe, Milfelner, 2006:1144). Naturally, this development should be sustainable on a long-term basis. Sustainable

development of rural tourism is a process which enables its growth and development without devastating and exploiting the factors on which it is based—before all healthy climate; unpolluted air, soil and water; absence of noise; absence of potential dangers from bad weather; preserved nature; preserved architectural heritage; preserved socio-cultural characteristics; picturesque landscape; opportunity of moving freely (Kušen, 2005:169).

The problem of managing rural tourism destinations is derived from the fact that all concepts of tourism destination management have been created for traditional ‘sun-and-sea’ destinations, as well as for big cities that have registered a great number of visitors, which is not the case with rural destinations in which the structure of guests is different due to the prevailing share of domestic tourists and one-day visitors. Rural tourism destinations are notably more complex than traditional ‘sun-and-beach’ holiday and urban tourism destinations because they encompass different fragmented aspects of offer. Some other authors have also warned about this problem (Petrić, 2006:140). The key problem emerging from the aforementioned is that, on the one hand, in principle less educated people of an underaverage education level participate in creating the offer (Lebe, Milfelner, 2006:1140), and on the other, that this development lacks appropriate support of the public sector, particularly on the level of tourism destinations—namely, most rural local authorities possess limited funds and lack personnel necessary for tourism management (Jelinčić, 2007:287).

Ultimately, the following features of tourism offer of rural destinations may be distinguished: it consists of small dispersed businesses that should co-operate and make use of collective marketing; it consists of small municipalities that should co-operate to create an integrated tourism offer, which is not the case. Offer is dominated by small family enterprises that personally welcome visitors and while doing so, they frequently offer inconsistent and non-standardised services. Most rural destinations lack identity; accommodation at family farms offers possibilities to support traditional economics, as well as to manufacture local autochthonous products, etc.

As for continental Croatia, the conceptualisation is acceptable that rural tourism is an activity or a movement by which people from urban environments return to nature (Ružić, 2009:17). It is often comprehended as a pure economic activity which does not devastate the environment as do industry, mining, deforestation and intense agricultural production (Bartoluci, 2013:190).

In the European Union countries rural tourism, as a special interest tourism variety, has an important economic role, for example, in Austria, Slovenia and Hungary that have evaluated in terms of tourism their natural, cultural and other resources and which realise great economic effects from rural tourism (Horwath Consulting, 2009:27). In contrast to these countries, this type of tourism is still poorly developed in Croatia, particularly in continental Croatia that is rich in natural and social resources which could become the basis of rural tourism development in ‘green’ Croatia.

### **3. Analysis of rural tourism in Eastern Croatia**

Rural tourism developed in Croatia in the last fifteen years. According to the research by the Croatian Chamber of Economy (CCE) in the year 2008, rural tourism is developed the most in Istria, Osijek-Baranja and Dubrovnik-Neretva County (Miškin, Mađer, 2008), which confirms the earlier claim that rural tourism is poorly developed in continental Croatia.

The growth of this special interest tourism variety is encouraged through tourism policy measures, by the Ministry of Tourism, the Ministry of Agriculture, the Croatian Chamber of Economy and it is supported by the Croatian Bank for Reconstruction and Development. However, a wide range for the development of this type of special interest tourism variety still remains, particularly after the accession of the Republic of Croatia to the European Union.

In rural tourism in Eastern Croatia village tourism is the most developed type of tourism. It implies an occasional stay in a rural area which offers to visitors, apart from clean air and natural environment, various opportunities of active participation in life and work on a family farm, participation in various agricultural festivals and other events (Kesar, 2011).

Development of rural tourism in Croatia started in the year 1998, when only 32 family farms were registered. Since then the number of family farms in Croatia has continuously increased and has amounted to 688 households, particularly in Istria's mainland, in Osijek-Baranja County and elsewhere (Bartoluci, Petračić, 2015:1045; Kljaić Šebrek, Birkić, Petračić, 2013:263), and the Croatian Chamber of Economy specifies that there are more than 160,000 registered family farms in Croatia (HGK, MR RH, 2015).

Official statistical data show that only 0.04% (26,000 overnights compared to 66.5 million of all overnights in Croatia in year 2014) were realised in rural households, and that 310 rooms, i.e. 0.06% of commercial accommodation capacity in Croatia, comprised the offer in this type of accommodation (DZS, 2015:12). Judging only on the basis of these data, a conclusion could be drawn that rural tourism is completely undeveloped in Croatia, which, however, is not true. Available research shows, for example, that about 160,000 of Croatian citizens visit wine roads, and of this number as much as 61% buy local wine and 63% local dietary products (Strategijarazvojarizma u Hrvatskoj do 2020 godine, Croatian Tourism Development Strategy until 2020, 2013:36).

Certain progress has been made in the year 2015 when Croatian Chamber of Economy together with the Ministry of Tourism of the Republic of Croatia has published, in two languages - Croatian and English, the first national catalogue *Rural Tourism in Croatia* (HGK, MT RH, 2015) in which all facilities in which various services could be rendered to visitors in rural Croatia have been listed. Apart from registering the rich and diverse rural offer of all service renderers and of all manufacturers of various autochthonous products, special attention in the catalogue has been paid to other special interest tourism types developing within rural tourism, ecotourism and cultural tourism in particular. We quote the following piece of text from this catalogue: "The creation of cultural tourism products that fit in well in the overall scope of rural tourism can be considered good indicators for the development of continental tourism and tourism in general. Such products include renewing traditional farms, tourism services in rural households and enjoyment in the cultural landscape, cuisine and customs, sightseeing cultural structures, such as castles, monasteries, sacral heritage, museums and other thematic collections, historical, archaeological and memorial sites, visits to cultural events and festivals throughout the year." The main advantage of this Catalogue is that the complete offer in rural Croatia is presented in one place. Without such an integrated approach, no access both to domestic and particularly to choosy foreign market is possible.

Rural tourism can be an important factor in activation and sustainable development of rural areas (Peña, Jamilena, Molina, 2014:1045) – a factor that would help preserve local identity, tradition and customs; that would help protect the environment; develop autochthonous, traditional as well as ecological manufacture; and that would help develop rural areas on the basis of sustainable development (HGK, MT RH, 2015:3).

Tourism and food production should be combined in rural development projects to accelerate both rural tourism development and agriculture, which might generate additional economic effects (Srića, 2010:238).

It is necessary to develop those rural tourism types that destruct environment and cultural as well as historical heritage to the least possible extent and that can be economically sustainable. As for

continental part of Eastern Croatia, the following special interest tourism types could serve this purpose: village tourism, gastronomic tourism, enotourism, cultural tourism, religious tourism, sports and physical recreation tourism, health tourism, ecotourism, etc. (Bartoluci, Hendija, 2014:12). Long-term development of rural tourism in Eastern Croatia should be based on sustainability principles—principles of ecological, socio-cultural and economic sustainability. Application of these principles is particularly important in rural tourism that should become a prime mover of tourism development in continental Croatia. Co-ordinated effectuation of sustainability principles in rural tourism could ensure long-term development of continental Croatia's tourism which creates its identity on cumulative natural, socio-cultural and economic resources.

Tourism family farms constitute a new tourism product that quickly develops in terms of quantity and quality on annual basis due to its natural developmental predisposition of being traditionally focused on agriculture and countryside lifestyle. However, in spite of positive growth and development tendencies, analyses have shown that both the growth and development of tourism family farms is neither uniform nor sufficient in all parts of continental Croatia. Reasons might be in fragmentation of rural tourism, a lower education level of local entrepreneurs participating in this type of entrepreneurship, or in too great a number of regulations. The development of tourism family farms should therefore more frequently be assessed on the basis of objective possibilities of its future development and investment both into the necessary accompanying infrastructure and into the development of other special interest tourism types such as hunting, fishing and health tourism.

Baćac (2011:18,38-44) lists the following main types of facilities that are to be found in rural areas in Eastern Croatia and in which tourism services are rendered: tourism family farms, tasting rooms, excursions, vacation houses in villages, hotels in rural areas, camps and camper stops. Miškin and Mader (2008:21) also list, together with principal types of facilities, the types of services that could be rendered in rural areas:

- tourism family farms;
- wineries or tasting rooms (wine cellars, wine tasting rooms, accommodation near wineries, wine roads);
- excursions sites or restaurants (facilities in which food is prepared in a traditional way, traditional crafts, workshops or souvenir shops);
- accommodation in a rural area: traditional and other rural vacation houses, rooms, apartments, camps (and recently small rural family hotels as well);
- eco-ethno villages and farms with ethnological collections, e.g. ethnological village Stara Kapela etc.;
- eco-family farms and organic farming – e.g. eco-winemaking Enjingi, Vetovo; Eco-Estate Mavrović, Soboština, etc.;
- themed trails (routes, roads, paths): wine routes; gastrological and enological itineraries; cheese routes; honey points routes; windmill routes; mushroom routes; equestrian routes; cultural routes; biking routes, etc.

We have listed some of the registered facilities that render services in rural tourism, which does not reflect the actual situation in this respect in the Republic of Croatia. Some family farms have not yet been registered for pursuing tourism-specific activities or they are currently in the process of registration, which means that current situation is better than the one described previously (HGK, MT RH, 2015:5).



#### **4. Possibilities of developing some special interest tourism types in Eastern Croatia**

In the last twenty years the development of rural tourism was somewhat more intensely encouraged by the Ministry of Tourism of the Republic of Croatia through various types and ways of stimulation. This resulted in new accommodation capacities, wine cellars, tasting rooms and other attractions in Slavonia and Baranja. However, their main disadvantage is that they are not connected in market terms and that they are not competitive on European tourism market.

It is therefore necessary to develop those rural tourism types that destruct environment and cultural as well as historical heritage to the least possible extent and that can be economically sustainable. In continental Croatia the following special interest tourism types could serve this purpose: village tourism, cultural tourism, religious tourism, sports and physical recreation tourism, health tourism, ecotourism, event tourism, gastronomic tourism, enotourism, hunting and fishing tourism, memorial tourism, as well as urban and business tourism in bigger places and county seats in rural areas.

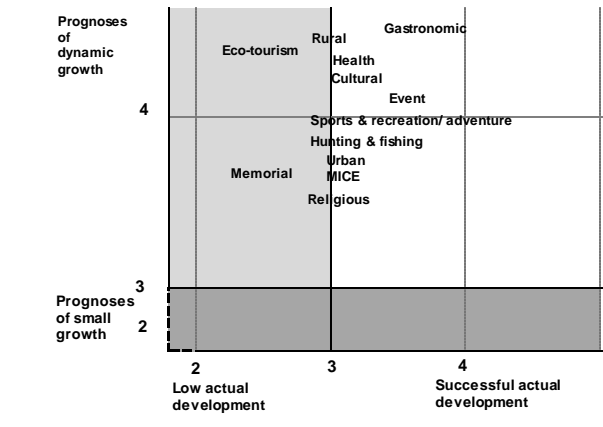
In an empirical research conducted in 2014 on a sample of 77 subjects Bartoluci, Kesar and Hendija (2014:1284) analysed the then current degree of development of 12 basic types and special interest types of tourism (i.e. urban and rural tourism as tourism forms, and MICE tourism; cultural tourism; event tourism; health tourism; gastronomic tourism; enotourism; sports-physical recreation and adventure tourism; hunting and fishing tourism; religious tourism, ecotourism and memorial tourism as special interest tourism types in continental Croatia. The total average development of these special interest tourism types received a low average mark of 2.7. As for its developmental level, event tourism received the highest mark (3.2), followed by gastronomic tourism and enotourism (3.0), cultural (2.9) and ecotourism (2.8).

The new empirical research conducted among 31 subjects in the year 2015 (Bartoluci, Hendija, Petračić, 2015:211), the findings of the earlier research have been confirmed for the purpose of this paper. The average mark of all special interest tourism types at this moment is 2.9—in other words, it is slightly higher than it was before, which points to the tendency of improving tourism offer in rural Croatia.

Almost all special interest tourism types (except for religious tourism) received higher marks, which makes it possible to conclude that this might indicate the onset of their more dynamic development in continental Croatia as the result of a new strategy of development of tourism and of various initiative measures.

In Figure 1 prospective development of certain forms of tourism and of special interest tourism types is presented with regard to the present developmental level, i.e. on the basis of research conducted in 2015.

**Figure 1** Parallel survey of the present and future development of certain special interest tourism types in continental Croatia (according to research in 2015)\*



Source: Devised by authors, Zagreb, 2015

\*Note: Average marks of subjects’ attitudes regarding the present degree of development of some tourism forms and some special interest tourism types, together with their anticipated development, are presented in Figure 1.

The results of research undoubtedly point to the necessity of developing a series of strong destination tourism products whose components (primarily attractions) will be mutually supplemented, thus creating a critical mass of adaptable complementary offer. As many as 77% of subjects, i.e. experts working in tourism, were of the opinion that it is necessary, for the purpose of economic sustainability of tourism in continental Croatia, to create and develop integrated tourism products (Table 2), and not individual attractions present in the market. Since one fifth of subjects evaluated this integration as medium and gave it mark 3, and only 1.7% of subjects gave this issue mark 2 or less, this confirmed the hypothesis in our research that long-term sustainable development of tourism in Eastern Croatia can be ensured only through integrated tourism offer of various special interest tourism types – not all special interest tourism types are sufficiently profitable (e.g. ecotourism, religious tourism, etc.), however, they are important for quality offer of a destination, so that they should be incorporated in integrated tourism product. Thus it is possible to provide long-term economic sustainability and quality of rural destination tourism offer.

**Table 1** Importance of creating integrated tourism offer of destinationsto realise economic sustainability of all forms of tourism (according to research in 2014 and research in 2015)\*

Year	Levelofimportance (in %)				
	Veryhigh	High	Medium	Low	Verylow
	23.4	53.9	21.0	1.7	0.0
	17.1	56.6	25.0	1.3	0.0

Source: Bartoluci, Kesar, Hendija, 2014; Bartoluci, Hendija, Petračić, 2015

\*Note: By using Likert-type scale the subjects marked the degree to which, according to their opinion, it is important, when creating tourism offer of a destination, for economic sustainability of rural tourism to develop integrated tourism product of all possible types and forms in a destination, and not to offer them as individual tourism attractions.

## 5. Management of rural tourism in Eastern Croatia

For the sustainable development of tourism in a specific destination it is necessary to develop a specific management model. Due to the fragmentation of various forms of offers as well as a large number of subjects who are performing these activities, it is necessary to coordinate their activities in the market. In the case of eastern Croatia, it can be a tourist destination with a joint appearance on the tourist market.

Such a destination management organization (DMO) may have the task of coordinating and linking all business entities in the private and public sector: entrepreneurs from the hospitality industry, travel agencies, tourist boards and others. DMO should coordinate and promote the destination of Eastern Croatia in the domestic and foreign markets through a common marketing strategy. This coordination can be done through various forms of clusters such as:

- horizontal cluster - linking companies of the same or similar activities which are a part of the value chain in the same area (eg. more hotels)
- vertical cluster - linking companies working in the same area, but at different stages of the supply chain (eg. wine-growers and wine-makers)
- diagonal cluster - linking complementary activities (eg. accommodation, meals, transport, culture, etc.)(Bartoluci, 2013; 159).

In practice, in the area of Slavonia and Baranja there are already certain forms of clusters such as: "Slavonian basket", "Slavonian sausage" and the like. But it is only a beginning of business coordination.

In a destination management, it is most important to recognize its specificities and offer them to clearly defined target groups of tourists through attractive and comprehensive packages of services and facilities. Pursuant to the above, one of the key questions of a destination management today is how to design and launch a tourism product of the destination? In order to be successful, the management must devise, organize and carry out certain marketing activities such as:

- identifying the potential tourist destinations
- designing the offer of tourist product
- researching potential users of the tourist product
- promoting tourist products among the target groups of tourist demand
- selling the tourist product
- implementing the tourist product and assessing its quality.

Creating possibilities for tourist activities as an essential part of the holiday offer is produced and marketed in each hierarchical level of the destination (enterprise, owners, hospitality workers, hoteliers, city, municipality, brokers, tour operators) (Magaš, 2003: 170).

The establishment of the DMO should be explored and designed with all the necessary elements and all business relations between the partners, together with the common objectives and the strategy of the development of rural tourism in the destination of Eastern Croatia.

## 6. Conclusion

The results of analysis in this paper showed that rural tourism is mostly a poorly developed form of tourism in Croatia although more than 92% of Croatian territory is rural. It is necessary to incorporate all principles of sustainable development—ecological principles, socio-cultural principles and special economic principles of sustainable development—into future progress of rural tourism throughout Eastern Croatia. Application of ecological principles of sustainable development should provide ecological preservation and protection of all natural resources.

Application of socio-cultural principles should protect cultural and historical tangible as well as intangible heritage in continental Croatia. Economic principles of the sustainability of rural tourism should be co-ordinated with other principles to preserve long-term sustainable development of rural tourism. However, advanced tourism demand, especially the one from abroad, does not exist in other areas of Eastern Croatia, and domestic demand is still relatively poor. By opening the European market, attracting foreign tourists' demand for Eastern Croatia tourism offer will depend on attractiveness and competitiveness of tourism offer in rural tourism in this region. The basis of this development might be comprised of special interest tourism types that can be evaluated in more detail through integrated tourism offer of rural tourism.

The last ten years have seen the encouragement of rural tourism development by the Ministry of Tourism of the Republic of Croatia and the Ministry of Agriculture of the Republic of Croatia, and recently also by the EU funds. This resulted in new accommodation capacities, wine cellars and other attractions in Slavonia and Baranja and in other parts of continental Croatia. However, these accommodation capacities are to be regarded as small and they amount to less than 1% of total accommodation capacities in Croatian tourism. Still, economic and broader social effects of the development of rural tourism are unquestionable and have been scientifically proven in numerous studies, which has also been partly confirmed by our research.

The accession of Croatia to the European Union has opened new market and investment opportunities for the development of rural tourism. Opportunities to finance rural tourism projects from structural and other EU funds were created, and they should be even more intensively utilised in Eastern Croatia. This requires investment projects for special interest tourism types in compliance with sustainable development principles. Our research has confirmed the hypothesis that long-term sustainable development of rural tourism in Eastern Croatia may be provided only through integrated tourism offer of various special interest tourism and that it is necessary to manage its development at the level of homogeneous region Eastern Croatia.

The establishment of the DMO should be explored and designed with all the necessary elements and all business relations between the partners, together with the common objectives and the strategy of the development of rural tourism in the destination of Eastern Croatia.

## REFERENCES

Bačić, R. (2011) *Priručnik za bavljenje seoskim turizmom – korak po korak od ideje do uspješnog poslovanja*, Ministarstvo turizma Republike Hrvatske, Zagreb. Dostupno na: [http://www.mint.hr/UserDocsImages/Prirucnik\\_Seoski\\_turizam.pdf](http://www.mint.hr/UserDocsImages/Prirucnik_Seoski_turizam.pdf) (accessed 28.11.2015)

Bartoluci, M. (2013) *Upravljanje razvojem turizma i poduzetništva. Školska knjiga*. Zagreb.

Bartoluci, M., Hendija, Z. (2014) *Održivi razvoj ruralnog turizma kontinentalne Hrvatske. 3. međunarodna konferencija Menadžment turizma i sporta: Tehnološki razvoj u funkciji održivog turizma i sporta. Veleučilište u Čakovcu. Čakovec*. Dostupno na: <http://konferencija.mev.hr/wp-content/uploads/2014/04/Zbornik-radova-3.-me%C4%91unardna-konferencija.pdf> (accessed 10.11.2015)

Bartoluci, M., Hendija, Z., Petračić, M. (2015) *Possibilities of sustainable development of rural tourism in continental Croatia*, Acta Turistica, Vol.27 (2), pp. 191-219.

Bartoluci, M., Kesar, O., Hendija, Z. (2014) *Critical Analysis of Economic Sustainability of Tourism Development in Continental Croatia. 7th International Conference: An Enterprise*

*Odyssey: Leadership, Innovation and Development for Responsible Economy.* Galetić, L., Spremić, M., Šimurina, J., Ekonomski fakultet Zagreb. pp.1281-1298

Bartoluci, M., Petračić, M. (2015) **Mogućnosti razvoja ruralnog turizma na području Slavonije i Baranje**, The possibility for development of rural tourism in the area of Slavonija and Baranja. *2nd International Scientific and professional Conference "The Challenges of today – tourism and local development"*. October 1-3, 2015. Šibenik. pp.53-54

DZS (2015) **Statističko izvješće Turizam u 2014. godini**: broj 1539. Zagreb.

Gartner, W.C. (2004) **Rural tourism development in the USA**. *The International Journal of Tourism Research*. Vol. 6. No. 3. Published online in Wiley Inter Science, ProQuest. pp.151-164

George, E.W., Mair, H., Reid, D.G. (2009) **Rural tourism Development: Localism and Cultural Change**. Bristol: Channel View Publications

Haven-Tang, C., Jones, E. (2012) **Local leadership for rural development: a case study of Adventa, Monmouthshire**. UK: *Tourism Management perspectives*. Vol. 4. pp.28-35

HGK, MT RH, Ministarstvo turizma RH (2015) **Ruralni turizam Hrvatske**. Nacionalni katalog, Hrvatska gospodarska komora, HGK i MT RH. Dostupno na: [http://www.mint.hr/UserDocsImages/hgk\\_2015\\_ruralni\\_turizam\\_katalog.pdf](http://www.mint.hr/UserDocsImages/hgk_2015_ruralni_turizam_katalog.pdf) (accessed 10.11.2015)

Jafari, J. (2000) **Encyclopedia of Tourism**. London: Routledge. New York: Routledge

Jelinčić, D. A. (2007) **Agroturizam u europskom kontekstu**. *Stud, ethnol. Croat*. Vol. 19. pp.269-291

Kesar, O. (2011) **Specifični oblici turizma**. Nastavni tekst za predavanja na kolegiju Specifični oblici turizma na Ekonomskom fakultetu Zagreb

Kljajić Šebrek, J., Birkić, D., Petračić, M., (2013) **Uloga turističkih seoskih obiteljskih gospodarstva u razvoju turizma Istočne Hrvatske**. *Acta Turistica Nova*. Vol. 7. No. 2. ISSN 1846-4394. pp.261.-277

Kušen, E. (2006) **Ruralni turizam**. U: Čorak, S., Mikačić, V., Hrvatski turizam – plavo, zeleno, bijelo. Znanstvena edicija Instituta za turizam: knjiga br. 3. Zagreb. pp.167-191

Lebe, S.S., Milfelner, B. (2006) **Innovative organisation approach to sustainable tourism development in rural areas**. *Kybernetes*. Vol. 35 No. 7/8. pp.1136-1146

Magaš, D. (2003) **Management turističke organizacije i destinacije**, Fakultet za turistički i hotelski menadžment, Sveučilište u rijeci, Opatija

Miškin, L., Mader, B. (2008) **Aktualno stanje turizma na ruralnom prostoru Hrvatske 2008**. HGK, Sektor za turizam. Zagreb: Dostupno na: <http://www.hgk.hr> (20.06.2014)

Nair, V. et al. (2015) **Redefining Rural Tourism in Malaysia: A Conceptual Perspective**. *Asia Pacific Journal of Tourism Research*. Vol. 20. No. 3. pp.314-337

Pearce, D. (1989) **Tourism Development**, seconded. New York: Longman Scientific and Technical with John Wiley and Sons

Peña, A. I. P., Jamilena, D. M. F., Molina, M. A. R. (2012) *The perceived value of the rural tourism stay and its effect on rural tourist behaviour*. Journal of Sustainable Tourism. Vol. 28. No. 8. pp.1045-1065

Petrić, L. (2006) *Izazovi razvoja ruralnog turizma – dosadašnja praksa u Europi i reperkusije na Hrvatsku*. Acta turistica. Vol. 8. No. 2. pp.138-170

Pröbstl-Haider, U., Melzer, V., Jiricka, A. (2014) *Rural tourism opportunities, strategies and requirements for destination leadership in peripheral areas*. Tourism Review. Vol. 69. No. 3. pp. 216-228

Roberts, L. Hall, D. (2001) *Rural tourism and recreation: Principles to Practise*, Oxon, CABI

Ružić, P. (2009) *Ruralni turizam*. Poreč: Institut za poljoprivredu i turizam

Ružić, P., Demonja, D. (2013) *Prirodna i antropogena osnova turizma Hrvatske*. Sociologija i prostor. Vol. 51, 195. No. 1. pp.45-65

Srića, V. (2010) *Hrvatska 2020*. Profil. Zagreb.

Strategija razvoja turizma u Hrvatskoj do 2020. godine, Croatian Tourism Development Strategy until 2020 (2013) Ministarstvo turizma RH i Institut za turizam Zagreb /NN 55/2013. Dostupno na: <http://www.mint.hr/UserDocsImages/Strategija-turizam-2020-editfinal.pdf> (accessed 15.11. 2015)

UNWTO, UN World Tourism Organisation (2013) *Rural Tourism in Europe: Experiences, development and perspectives*. Madrid

**Dražen Čučić, PhD.**

Faculty of Economics in Osijek  
Department of National and International Economics  
E-mail: dcucic@efos.hr

**Jesenska Ricl, mag. art.**

Croatian Society of Cultural Tourism  
E-mail: jesenkaric@gmail.com

**Mirna Bijuković Maršić, lecturer**

University J.J. Strossmayer  
Department of Cultural Studies  
E-mail: mbmarsic@kulturologija.unios.hr

## **CULTURAL TOURISM OF SLAVONIA AND BARANJA**

### **KULTRUNI TURIZAM SLAVONIJE I BARANJE**

#### **ABSTRACT**

*Tourism is one of the most complex economic phenomenon which contributes to the economic, social and social development of all countries in the world, including Croatia and the region of Slavonia and Baranja. Cultural tourism as a form of tourism which is dominated by interest in material and intangible cultural certainly in the area of Slavonia and Baranja has potential for further growth and development.*

*For many years Slavonia and Baranja suffers a period of stagnation in the economic, social and cultural terms (according to the Croatian Employment Service in 2016, the number of unemployed persons amounted to 74,257 which is almost 26.67% of the total unemployed in Croatia). The main reasons are the negative demographic trends and a continuous process of depopulation (according to the Central Bureau of Statistics, the rate of natural increase in 2014 in Virovitičko-podravaska county is - 408, Požeško-slavonska county is -294, Brodsko-Posavska county is - 545, Osiječko-baranjska county is - 1260, Vukovarsko-srijemska county - 619). Also, there is emigration of the labor force (according to the Central Bureau of Statistics in 2014 from Slavonia and Baranja moved the 4860 working-age population) and high unemployment especially the young population (according to the Croatian Employment Service, the number of unemployed young people aged 20 - 24 years at the level of Slavonia and Baranja is 9380). We also note the lack of vision and strategy development, market unprepared and insufficient marketing presentation of Slavonia and Baranja and its primary attractions (archaeological sites, ecologically preserved area, gastronomic - oenological offer), and the slow modernization of tourism infrastructure (accommodation and catering facilities, roads, railways, themed trails, attractions, as a function of selective tourism).*

*Certainly tourism - Cultural tourism is one of the activities that in Slavonia and Baranja can have a powerful effect on stopping the degradation process, reducing the economic and social gap, increase the level of employment and brand identity on the tourist map of the Croatian, and that is the purpose of this paper is to prove .*

*Aims of the paper: To investigate the current offer of cultural tourism in the region of Slavonia and Baranja, detect strengths, weaknesses, opportunities and threats, determine the potential for further development of cultural tourism, as well as the channels through which they share cultural tourism Slavonia and Baranja be present on the domestic and foreign markets target groups.*

**Keywords:** a year-round destination, potential, growth, sustainability

## SAŽETAK

Turizam predstavlja jednu od najkompleksnijih ekonomskih pojava koja pridonosi gospodarskom, društvenom i socijalnom razvoju svih država svijeta, između ostalog i Hrvatskoj te regiji Slavoniji i Baranji. Kulturni turizam kao jedan od oblika turizma u kojem dominira interes za materijalnom i nematerijalnom kulturnom zasigurno na području Slavonije i Baranje posjeduje potencijale za daljnji rast i razvoj.

Dugi niz godina Slavonija i Baranja proživljava nezavidno razdoblje stagnacije u gospodarskom, socijalnom i društvenom smislu (prema podacima Hrvatskog zavoda za zapošljavanje u 2016. godini broj nezaposlenih osoba iznosi je 74.257 što je gotovo 26,67% od ukupno nezaposlenih osoba u Republici Hrvatskoj). Osnovni razlozi su negativna demografska kretanja i kontinuirani proces depopulacije (prema podacima Državnog zavoda za statistiku stopa prirodnog prirasta u 2014. godini za: Virovitičko-podravsku županiju iznosi – 408, Požeško-slavonsku -294, Brodsko-posavsku -545, Osječko-baranjsku -1260, Vukovarsko-srijemsku -619). Također, je prisutna emigracija radne snage (prema podacima Državnog zavoda za statistiku u 2014 godini iz Slavonije i Baranje iselilo je 4860 radno sposobnog stanovništva), visoka stopa nezaposlenosti naročito mlađe populacije (prema podacima Hrvatskog zavoda za zapošljavanje broj nezaposlenih mlađih osoba u dobi od 20-24 godine na razini Slavonije i Baranje je 9.380). Ističemo i nepostojanje vizije i strategije razvoja, tržišne nepripremljenosti i nedovoljnog marketinškog predstavljanja Slavonije i Baranje odnosno njezinih osnovnih atrakcija (arheoloških lokaliteta, ekološki očuvanih područja, gastronomsko - enološke ponude), te spore modernizacije turističke infrastrukture (smještajni i ugostiteljski objekti, prometnice, željeznice, tematske staze, atrakcije, objekti u funkciji selektivnog turizma).

Zasigurno turizam - kulturni turizam jedna je od djelatnosti koja u Slavoniji i Baranji može imati snažan utjecaj na zaustavljanje degradacijskih procesa, smanjivanje gospodarskog i društvenog jaza, povećanje stupnja zaposlenosti te prepoznatljivosti destinacije na turističkoj karti Republike Hrvatske, a upravo je to i svrha dokazati ovim radom.

Ciljevi rada: istražiti aktualno ponudu u kulturnom turizmu na području Slavonije i Baranje, detektirati snage, slabosti, prilike i prijetnje, odrediti potencijale za daljnji razvoj kulturnog turizma, te kanale putem kojih se dionici kulturnog turizma Slavonije i Baranje mogu predstaviti na domaćem i stranom tržištu ciljanim skupinama.

**Ključne riječi:** cjelogodišnja destinacija, potencijali, rast, održivost

### 1. Introduction

Slavonia and Baranja stretches within each of the five counties (Virovitičko-podravska, Osječko-baranjska, Požeško-slavonska, Vukovarsko-srijemska, Brodsko-posavska), and above counties create the backbone of economic and social development of the eastern Croatian.

With its historical and cultural heritage Slavonia and Baranja represents a rich treasure of cultural and architectural resources and formations. Tangible cultural property (town core, religious monuments, monasteries, museums, churches, palaces, art nouveau series, chapels, manors, castles, galleries, libraries, etc.) on the one side and the intangible cultural heritage (church folk singing, speech posavina villages, singing of old songs, the art of making Slavonian leather vest etc.) on the other side represent a significant potential for growth and sustainable development of year-round cultural tourism in Slavonia and Baranja.

The objectives of this paper are: to explore the current offer of cultural tourism in the region of Slavonia and Baranja, detect strengths, weaknesses, opportunities and threats, determine the



potential for further development of cultural tourism, as well as the channels through which they share cultural tourism Slavonia and Baranja be present on the domestic and foreign market target groups.

## 2. Methodological remarks

The survey was conducted in the period from 12.16.2015. to 12.01.2016. year through an online form, which is the total questioned of 121 respondents. Since it was online test subjects were randomly chosen or voluntarily joined the survey testing.

This research sought to examine how and on which way tourists perceive cultural tourism in Slavonia and Baranja.

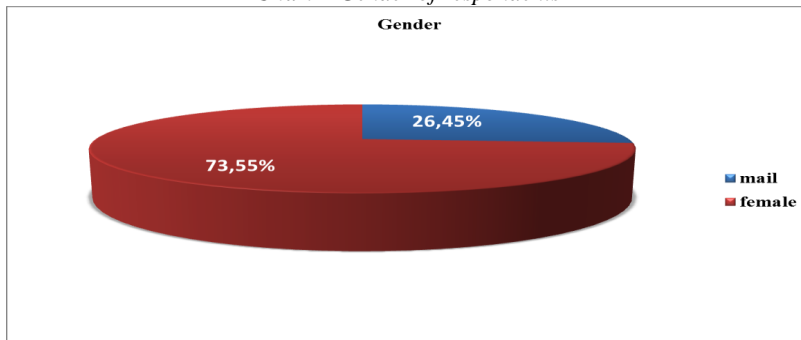
The questionnaire consisted of 23 questions, of which 19 issues were closed and 4 open-ended questions (questions 3, 9, 10, 18) where the participants themselves should indicate their answers.

Of the 19 closed tquestions two questions were dichotomous (questions 1, 11 and 12) where the respondents offered a choice between two options – yes and no, related to gender - male and female.

In the questionnaire, the questions (2., 5., 6., 7., 8., 13., 14., 16., 19., 20., 21., 22. i 23) was created with multiple choice. The questionnaire also used measurement scale (Likert measurement scale) for questions 4, 15 and 17.

## 3. The results of research of cultural tourism Slavonia and Baranja

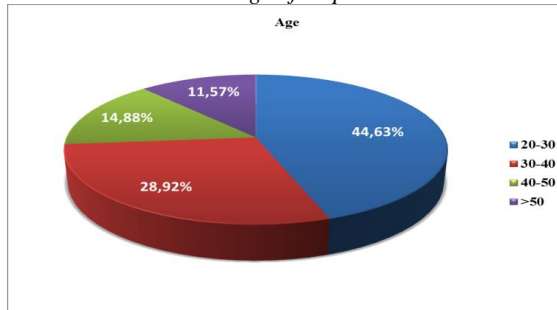
*Chart 1 Gender of respondents*



Source: authors

Of the total of 121 respondents 89 respondents (73.55%) were women, while 32 respondents (26.45%) were male.

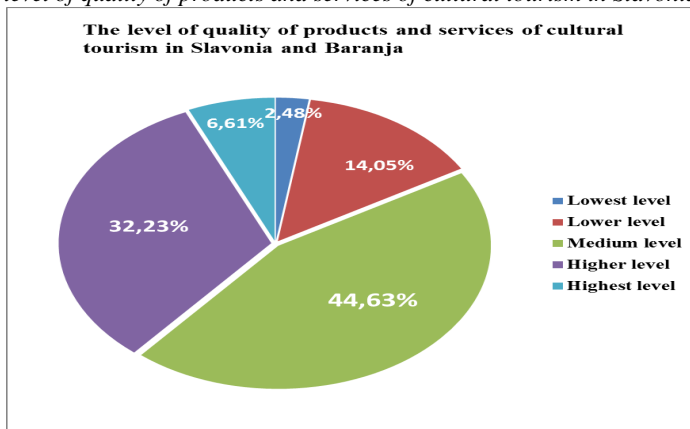
*Chart 2 Age of respondents*



Source: authors

Of the total number of respondents (121), with 54 (44.63%) belong to the age group 20-30 years, 35 patients (28.92%) group of 30-40 years, 18 patients (14.88%) of 40 to 50 and 14 (11.57%) who are older than 50 years.

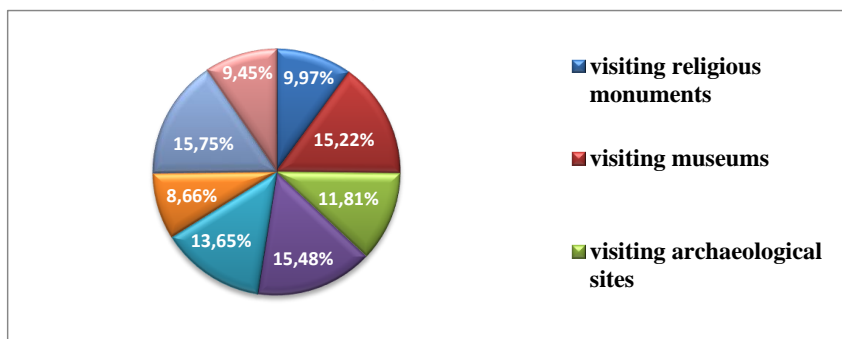
**Chart 3** The level of quality of products and services of cultural tourism in Slavonia and Baranja



Source: authors

According to his own opinion of the respondents most respondents (44.63% or 54 respondents) is the quality level of products and services of cultural tourism Slavonia and Baranja rated with an average - intermediate. Consequently, the question is whether the respondents felt that the real quality level of the average or are not considered to correspond to some of the other offered the level of response. 32.23% of respondents or 39 of them considered that the level of quality products and services at a higher level while simultaneously 14.05% (17) believe that the quality at a lower level. At end-opposites - the lowest and the highest level of 6.61% of the respondents and 8 of them believe that quality is at the highest level while only 3 respondents OR 2.48% believe that the quality at the lowest level. If all these staggering decrease in the three options in a way that the lowest and the lower level is one that would read "low level", medium to remain alone options and higher and the highest level of the third option, which would read "high level" then we can actually say that 38.84% of respondents believe that the level of quality above average, while 16.53% of respondents believe that the level of quality below average.

**Chart 4** Proportion of participants in cultural tourism



Source: authors

In this question respondents had a possibility for choose multiple options. Most respondents (15.75%) in cultural tourism participates visiting urban events such as Osijek Summer of Culture, Osijek Summer youth, SLUK - festival of puppet creation, EPTA - International Competition for Young Pianists, Dionysus - the international festival of theater academies. Immediately after that, a large part of the respondents (15.48%) is included in cultural tourism by visiting the folklore events such as Vinkovci Autumn / Đakovački berths and the like. Conversely, the least respondents (8.66%) visited urban sports events such as Pannonian Challenge, where visiting concerts

#### 4. Conclusion

By offering cultural heritage (Osijek fortress, museum of Slavonia, gallery of Fine Arts, castle of the family Pejačević, cathedral Basilica of St. Peter and Paul, castle of the family Eltz, city Museum, museum of Vučedol culture, castle of the family Odeschalchi, city Museum, the Baroque fortress Brod, curia of the family Jankovic, baroque palaces) on the one side and cultural and urban events (surduk festival Baranja, round from the golden strings of Slavonia), urban events (Osijek summer of culture, Osijek summer youth, museum Night, straw Art festival , Pannonian Challanage, Vukovar film festival, Bonofest, catherine Fair, days of I.B.M, days of Josip Kozarac, Dorf, Virkas, Slatinsko summer, festival of young pianists, days of Milka Clement) on the other side represent a significant potential for sustainable and year-round cultural tourism in Slavonia and Baranja.

Sustainable and year-round cultural tourism in Slavonia and Baranja, with respect to the research results, is achievable only by mutual mix of tourist offer ethno tourism, gastronomic tourism, eno tourism, eco-tourism and cultural tourism.

According to data obtained from the survey 36.91% of respondents said that tourism Slavonia and Baranja is most associated with gastro tourism, 23.91% on eco-tourism, 16.67% on eno tourism.

Also, according to the survey results, we point out that 73.55% of respondents believe that tourism Slavonia and Baranja recognized by ethno tourism, 10.74% of respondents by urban tourism, 9,92% of the respondents by archaeological tourism.

Economic viability and attraction value of cultural tourism Slavonia and Baranja requires the introduction of new activities. According to the survey, 75.41% of respondents believe to these activities should apply to cultural routes, theme parks and resorts, 11.47% of respondents believe to experiences, shopping tours and catering arrangements entered the most economic value and attractiveness in a cultural tourism, while 10.65% is considered to these activities should relate to the museum, educational and scientific programs.

The results of the research can be basic guidelines for local government and of self-government, tourism associations, cultural and historical institutions to further strengthen the cultural tourism in the region of Slavonia and Baranja.

#### REFERENCES

Antolović, J. (2009): *Zaštita i očuvanje kulturnih dobara*, Hadrian d.o.o., Zagreb

Antolović, J. (1998): *Ekonomsko vrednovanje graditeljske baštine*, Mikrorad d.o.o., Zagreb

Jelinčić D., Gulišija D., Bekić J. (2010): *Kultura, turizam, interkulturalizam*, Institut za međunarodne odnose, Meandarmedia, Zagreb

- Keller,P.(2000): *Tourism and Culture: Managing Change*, AIEST, St. Galen
- Kotler F., Bowen J.T., Makens J.C. (2010): *Marketing u ugostiteljstvu, hotelijerstvu i turizmu*, Mate, Zagreb
- Marasović, T. (2002): *Kulturna baština 2*, Veleučilište u Splitu, Split
- Mc Kercher B., du Cros H. (2002): *Cultural Tourism The Partnership Between Tourism and Cultural Heritage Management*, The Haworth Press ,New York
- Middleton, V.T.C., Clarke J. (2002): *Marketing in Travel and Tourism*, Butterworth Heinemann, Oxford
- Pančić Kombol T. (2006): *Kulturno nasljeđe i turizam*, Radovi Zavoda za znanstveni rad HAZU, Varaždin
- Pavičić J., Alfirević N., Aleksić Lj. (2006): *Marketing i menadžment u kulturi i umjetnosti*, Masmedia, Zagreb
- Ružić D., Biloš A., Turkalj D. (2009): *E-marketing*, Ekonomski fakultet u Osijeku, Osijek
- Vrtiprah V. (2006): *Kulturni resursi kao činitelji turističke ponude u 21. stoljeću*, Sveučilište u Dubrovniku, Dubrovnik
- Tkalac Verčić, A., Sinčić Ćorić D., Pološki Vokić, N. (2010): *Priručnik za metodologiju istraživačkog rada: Kako osmisliti, provesti i opisati znanstveno i stručno istraživanje*, M.E.P., d.o.o, Zagreb

**Anamarija Delić, assistant professor**  
Josip Juraj Strossmayer University of Osijek  
Faculty of Economics in Osijek  
adelic@efos.hr

**Lidija Filakov, student**  
Josip Juraj Strossmayer University of Osijek  
Faculty of Economics in Osijek

## **WHY NOT TO USE THE SERVICE OF BUSINESS ADVISERS? SOME EVIDENCE FROM CROATIA**

### **ZAŠTO NE KORISTIMO USLUGE POSLOVNIH SAVJETNIKA? PRIMJER HRVATSKE**

#### ***ABSTRACT***

*Business advisers and their impact on the performance of small and medium-sized companies (SMEs) are in the focus of many researchers. SMEs are reporting increasing interest in business advice, but they are not using all the services available on the market. This article analyses the supply and demand of the business advice sector and the nature of the available wide range of business advice. For the purpose of the analysis we have used secondary data - results of a study conducted on 303 SMEs and 60 companies registered for consultancy services. Our findings show that owners/managers of SMEs are familiar with the supply of business advice services, but are trying to solve problems by themselves rather than use services of business advisers. Those who have used services of business advisers are satisfied with their advice and knowledge, but only half of them will use their services again. These findings suggest that owners/managers in this relationship are seeking a different approach. Business support organizations, funded by the state, are not seen as providers of valuable business advice for SMEs.*

*The goal of this research is to identify the reasons for not using business advice despite the fact that it can help company to survive or to become more competitive on the market.*

*Results of this article can be important for accountants, entrepreneurs, but also academics interested in providing advice for to SMEs.*

*Further research is needed in order to understand if and how advice was implemented. Implementation is necessary for the creation of the relationship between consultants and entrepreneurs and can minimize agency problems.*

**Keywords:** *Business advisers, supply of consultancy services, small and medium-sized companies, business support organisations*

#### ***SAŽETAK***

*Uloga poslovnih savjetnika i njihov utjecaj na rezultate malih i srednjih poduzeća je predmet istraživanja brojnih istraživača. Mala i srednja poduzeća pokazuju sve više interesa za poslovne savjetnike, ali na tržištu rijetko koriste njihove usluge. U ovom se članku analizira ponuda i potražnja za uslugama poslovnih savjetnika, kao i vrste dostupnih usluga na tržištu. U istraživanju su korišteni sekundarni podaci – rezultati studije koja je provedena na uzorku od 303 mala i srednja poduzeća i 60 poduzeća registriranih za pružanje usluga savjetovanja. Rezultati pokazuju kako su vlasnici, odnosno menadžeri malih i srednjih poduzeća upoznati s uslugama koje su*

*dostupne na tržištu, ali će ipak probleme radije pokušati riješiti samostalno. Oni vlasnici/menadžeri malih i srednjih poduzeća koji su pak usluge koristili, su zadovoljni pruženim savjetima i znanjima, no ipak bi tek polovica njih ponovila iskustvo poslovnog savjetovanja. Ovakovi rezultati ukazuju na nužnost drugačijeg pristupa u samom odnosu između poslovnog savjetnika i vlasnika/menadžera malog ili srednjeg poduzeća. Poduzetničke potporne institucije, koje financira resorno ministarstvo, vlasnici/manadžeri malih i srednjih poduzeća ne vide kao pružatelje usluga poslovnog savjetovanja. Cilj ovog istraživanja je prepoznati razloge nekorisćenja usluga poslovnog savjetovanja unatoč činjenici kako im poslovni savjet može pomoći za preživljavanje ili u podizanju konkurentnosti maog poduzeća.*

*Rezultati istraživanja u ovom članku mogu koristiti računovođama, poduzetnicima, ali i znanstvenicima koji proučavaju usluge poslovnog savjetovanja za mala i srednja poduzeća. U svrhu boljeg razumijevanja implementacije poslovnih savjeta, koja je nužna za stvaranje odnosa između savjetnika (konzultanta) i poduzetnika, a time i smanjivanje agencijskih troškova, potrebno je provesti dodatna, buduća istraživanja.*

**Ključne riječi:** poslovni savjetnici, ponuda konzultantskih usluga, mala i srednja poduzeća, poduzetničke potporne institucije

## 1. Introduction

Consultancy and advisory services are essential to companies and organisations in all stages of their life cycle, most commonly when it is necessary to solve problems for which companies or organisations do not have enough knowledge or capacity. In other words, consultancy and advisory services are needed by companies and organisations in various situations and contexts. However, thinking that consultancy services are intended for large enterprises, while small companies are less prone to use consultancy services due to numerous reasons is still prevalent (Nikolescu, Nicolae and Tudorache, 2013).

Christensen and Klyver (2006) argue that there are several paradoxes in studies of the needs of small and medium-sized companies for consultancy and advisory services. Despite the fact that they need consultancy and advisory services, owners of small and medium-sized company will rarely seek them. Previous studies have explained this paradox by different attitudes of owners of small and medium-sized companies, mainly based on assumptions about the client-consultant relationship, but there were no studies that would specifically investigate and explain their attitudes (Aronoff and Ward, 1996). The aim of this paper is to explore the offer of advisory and consultancy services in the Republic of Croatia on the one hand, and the satisfaction of the users themselves – owners of small and medium-sized companies, on the other. The results of this study may give an answer to the question of insufficient use of advice, despite the fact that various problems of small and medium-sized companies can be solved with the help of advisers and consultants, most often the existential ones.

## 2. Small and medium-sized company sector in Croatia – problems and barriers

As in the other EU-28 countries, the small and medium-sized company sector is the driver of the economy in the Republic of Croatia, which is reflected in the sector's share of employment (68%), generated revenue (52.1%), as well as the exports of this sector (48.2%)<sup>1</sup>. A special emphasis is placed on growing companies within this sector, because they can solve the pressing problems of the Croatian economy – unemployment and competitiveness. Growing companies are a minority in

---

<sup>1</sup> Alpeza, M., Biskupic, N., Eterovic, D., Gucic, E., Oberman Peterka, S., Singer, S., Sarlija, N. (2015), Small and Medium Enterprises Report – Croatia 2014. including the results of GEM – Global Entrepreneurship Monitor research for Croatia 2013, CEPOR, Zagreb, available on <http://www.cepor.hr/wp-content/uploads/2015/03/Cepor-godisnje-izvjesce-ENG-web-2014.pdf>, accessed April 10, 2016

all the economies, and according to the results of GEM research for 2013<sup>2</sup>, Croatia has very few such companies, only 4.8% (as opposed to highly developed countries where the share of growing companies ranges between 6% and 9 %). In addition, according to the results of the international study Global Innovation Index which determines the innovation level of countries<sup>3</sup>, in 2014 Croatia was in the 42nd place out of 143 countries included in the research, which puts us among countries that lack innovative ideas, solutions and approaches that would enhance the competitiveness of the entire economy.

According to the European Commission’s Annual Report on European SMEs 2013/2014 – A Partial and Fragile Recovery, the small and medium-sized company sector at the level of EU-28 faces several key issues: access to financing sources, competition, production costs, finding and hiring trained managers, regulations and finding new buyers. According to the results of GEM research, the sector of small and medium-sized companies in Croatia is characterised by a low level of starting business ventures, a large proportion of companies that are offer the same as the others, and significant regional differences in entrepreneurial activity. Most small and medium-sized companies fail due to a lack of marketing knowledge and managerial skills or capabilities and technical expertise (Dyer and Ross, 2008; Kamyabi and Devi, 2012).

Although Croatia has a well-developed business infrastructure, the problems and barriers that additionally hinder the survival and strengthening of competitiveness of the small and medium-sized company sector are numerous. According to the results of the World Bank’s study Doing Business in Croatia<sup>4</sup>, the biggest barriers to further growth and development of Croatian companies are dealing with various permits, protection of ownership and doing business outside the Croatian borders. The World Bank’s Business Environment and Enterprise Performance Survey lists access to finance, corruption and informal sector. Other reports confirm a lack of government efforts in overcoming the identified barriers, because very little has been done to overcome them.

**Table 1** Biggest barriers to the development of small and medium-sized companies in Croatia, results of research on the business environment in the Republic of Croatia

Year	Business Environment and Enterprise Performance Survey (BEEPS)	Doing Business	Business Environment Study	Global Entrepreneurship Monitor (GEM)
2008 2009	access to finance, informal sector and corruption	dealing with licenses, employing workers, protecting investors	weak judiciary and corruption	access to finance, government policies and programs

<sup>2</sup> Ibidem

<sup>3</sup> Dutta, S., Lanvin, B., Wunsch-Vincent, S. (2015), The Global Innovation Index 2015: Effective Innovation Policies for Development, Johnson Cornell University, INSEAD, WIPO, Switzerland, available on <https://www.globalinnovationindex.org/userfiles/file/reportpdf/GII-2015-v5.pdf>, accessed April 10, 2016

<sup>4</sup> Doing Business in Croatia, World Bank Group, available on <http://www.doingbusiness.org/data/exploreconomies/croatia/>, accessed on March 24, 2016

<b>Year</b>	<b>Business Environment and Enterprise Performance Survey (BEEPS)</b>	<b>Doing Business</b>	<b>Business Environment Study</b>	<b>Global Entrepreneurship Monitor (GEM)</b>
		dealing with construction permits, employing workers, protecting investors	weak judiciary and corruption	access to finance, government policies and programs
2013 2014	access to finance, informal sector and corruption	dealing with construction permits, protecting investors and trading across borders	weak judiciary and corruption	access to finance, government policies and programs
		dealing with construction permits, registering properties and trading across borders	weak judiciary and corruption	access to finance, government policies and programs

*Source: Business Environment Rankings, The Economist; Doing Business in Croatia, World Bank; Business Environment and Enterprise Performance Survey, World Bank; Global Entrepreneurship Monitor, Cepor, Zagreb*

Global Entrepreneurship Monitor research, in which the Republic of Croatia has been participating since 2002, states that the biggest problems of the sector of small and-medium sized companies are government policies towards regulatory framework, entrepreneurship education and transfer of research and development to the small and medium-sized company sector.



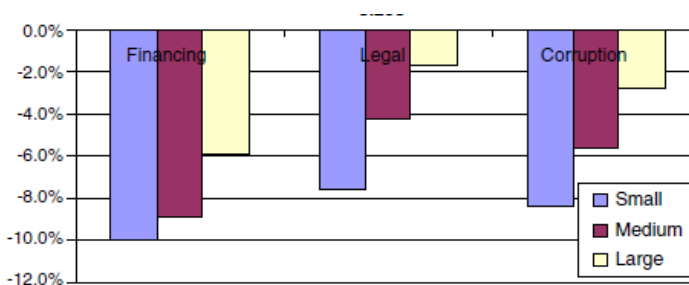
**Table 2** Average rating of entrepreneurial environment in Croatia and average for GEM countries in 2011

Elements of entrepreneurial environment	Croatia	GEM average
Access to finance	2.26	2.44
Government policies – priorities and supports	2.07	2.48
Government policies – speed and ease of functioning in regulatory framework	1.84	2.39
Government programs	2.36	2.57
Primary and secondary education	1.88	2.03
Tertiary education	2.73	2.81
Transfer of research and development	2.25	2.33
Protection of intellectual property	2.61	2.80
Commercial and professional infrastructure	2.84	3.02
Openness of the market – speed of change	3.32	3.02
Openness of the market – entry barriers	2.22	2.51
Access to physical infrastructure	3.65	3.73

Source: Singer, S., Šarlija, N., Pfeifer, S. et al. (2012), *What makes Croatia a (non)entrepreneurial country? Global Entrepreneurship Monitor Croatia 2002-2011*, Faculty of Economics in Osijek and CEPOR Croatia, available on <http://www.cepor.hr/GEM-brosura-2002-2011-eng-za-web.pdf>, p. 90

The sector of small and medium-sized companies is particularly affected by these barriers. According to Beck and Demircuc-Kunt (2006), small and medium-sized companies will be twice as much affected by deficiencies and barriers that characterise all underdeveloped financial markets, primarily by access to financing sources, legal protection (protection of ownership) and corruption.

**Graph 1** Impact of barriers from entrepreneurial environment on companies, according to their size



Source: Beck, T., Demircuc-Kunt, A. (2006), *Small and medium-sized enterprises: Access to finance as a growth constraint*, *Journal of Banking and Finance* 30, p. 2937.

These problems and barriers that impede the free flow of capital, further growth and development of companies, and in particular the strengthening the competitive position of these companies in the EU-28 market can be reduced or alternative solutions can be found by using expert advice or recommendations. But, the owners of small and medium-sized companies in the Republic of Croatia very rarely seek solutions through consultancy and advisory services that are available to them.

### 3. Business advisers market – supply of services

Solving the mentioned problems requires assistance and knowledge from outside the small and medium-sized companies, for which they have experts, business advisers and consultants at their disposal. Business advice is available from private consultancy firms or business advisory companies, and through networks of support institutions, which were established by local self-government units or line ministries.

There are 88 different business support institutions that operate in the Republic of Croatia – centres for entrepreneurship and business incubators, technology parks and technology development centres, and development agencies and departments for the development of economy. In addition to these institutions, all limited liability companies upon their establishment become members of the Croatian Chamber of Economy (CCE), while crafts become members of the Croatian Chamber of Trades and Crafts (CCTC). All of these institutions have advisory services for entrepreneurs in their portfolios, which makes advisory and consultancy services available to almost all entrepreneurs, regardless of the stage of the life cycle of their business.

The results of the study of the market of consultancy services in Croatia<sup>5</sup>, in addition to the above support institutions financed by line ministries and units of local self-government, indicate that there are 51 international consultancy companies, that is, a total of 500 companies authorised to provide advisory and consultancy services. However, despite numerous institutions and firms that provide consultancy and advisory services, the level of perception of the quality of professional infrastructural support for the development of the small and medium-sized company sector in Croatia was 2.78 in 2012, and 2.84<sup>6</sup> in 2011. The average rating in GEM countries is 3.02<sup>7</sup>.

Observing the number of small and medium-sized companies regionally, as well as the number of companies engaged in providing advisory and consultancy services, it can be concluded that there are significant differences in the availability of services by regions and counties. The largest number of services is available in the most developed counties (City of Zagreb – 1,662 consultancy companies, Istria County – 189 consultancy companies), while the offer in the less developed counties is significantly lower – Lika-Senj County – 2 consultancy companies and Virovitica-Podravina County – 3 consultancy companies.<sup>8</sup>

Coordinated provision of advisory and consultancy services in the Republic of Croatia began in 1997 with the establishment of the Croatian Network of Consultants<sup>9</sup>, which was mainly focused on the development of business plans and investment studies for entrepreneurs who needed external sources of financing. Certification of consultants, as well as their training, was conducted by the Ministry of Economy. The work of this network, which eventually ceased to exist, was continued through the establishment of HUKON (Croatian Association of Consultants), a non-profit organisation whose work was funded by USAID and membership fees of its members. However, the number of users of services has been on a steady decline, while the problem of illegal competition was growing, and the state once again became involved in the work of consultants, as

<sup>5</sup> Alpeza, M., Mikrut, M., Oberman Peterka, S., Delic, A. (2014), Croatia Consultancy Market Study, CEPOR and European Bank for Reconstruction and Development, Zagreb, available on <http://www.cepor.hr/wp-content/uploads/2015/07/Croatia-Consultancy-Market-Study-HR.pdf>, accessed on April 1, 2016

<sup>6</sup> Alpeza, M., Mikrut, M., Oberman Peterka, S., Delic, A. (2014), Croatia Consultancy Market Study, CEPOR and European Bank for Reconstruction and Development, Zagreb, available on <http://www.cepor.hr/wp-content/uploads/2015/07/Croatia-Consultancy-Market-Study-HR.pdf>, accessed on April 1, 2016

<sup>7</sup> Rating 5 indicates the presence of consultancy, professional, legal and accounting services in the country, and the possibility of using the highest quality services

<sup>8</sup> Alpeza, M., Mikrut, M., Oberman Peterka, S., Delic, A. (2014), Croatia Consultancy Market Study, CEPOR and European Bank for Reconstruction and Development, Zagreb, available on <http://www.cepor.hr/wp-content/uploads/2015/07/Croatia-Consultancy-Market-Study-HR.pdf>, accessed on April 1, 2016

<sup>9</sup> Operating rules of the Croatian Network of Consultants are defined in Official Gazette no. 133 published on October 15, 1997, and the rules on the issuance of certificates to consultants and acquiring the status of a licensed member of the Croatian Network of Consultants for Small Business (NN 133/97)

well as in the coordination of the market of advisory and consultancy services. Croatian Agency for Small Business (HAMAG) took over the role of certification of consultants, as well as co-financing of services of these consultants for owners of small and medium-sized companies. The program is currently not active, and HAMAG BICRO offers consultancy services only in the field of energy efficiency.<sup>10</sup>

Although available through a considerably large number of business support institutions, advisory and consultancy services are rarely used. According to the research results, as many as 78% of small and medium-sized companies have not even once used services of consultants and business advisers in the last 3 years. Comparing the available supply of advisory and consultancy services on the one hand and the demand for these services on the other hand, it can be concluded that there is a disparity causes of which should be sought not only in the market of these services, but in the whole business environment of the Republic of Croatia.

#### 4. Research design

The aim of this research is to determine the reasons why owners of small and medium-sized companies in Croatia very rarely use the services of business advisers and consultants, and what types of business problems are they solving with this type of services most often. Both primary and secondary sources of information were used in the research. Secondary sources, which were used to collect information on the available advisory and consultancy services, as well as on the obstacles and barriers that owners of small and medium-sized companies most often encounter, are publicly available studies and research results. The supply of advisory and consultancy services in the Croatian market was explored through use of websites, and through the data of the Financial Agency (FINA) on the number of companies registered for these services. Data on the situation in the sector of small and medium-sized companies, and the obstacles and barriers to their further development was collected through publicly available studies, reports and results of various international research, such as the Global Entrepreneurship Monitor research.

The primary sources of data, collected for the purpose of preparing the *Croatia Consultancy Market Study*<sup>11</sup>, were also used to draw conclusions in this paper. Data were collected using CATI methodology, and the respondents answered open and closed-ended questions. On average, it took 20 minutes per respondent to gather the data contained in the questionnaire. The primary research had to be conducted on two significantly different samples – owners of small and medium-sized companies and owners of companies registered for the provision of advisory and consultancy services.

Selection of owners of small and medium-sized companies and owners of consultancy companies was made by random sampling of telephone numbers (both landline and mobile), which enabled a better range of target population and better representation of the sample. To define the sample, in which subpopulations were significantly different, the method of grouping members of the population into relatively homogeneous subgroups before selection (strata) was used. Strata were defined by geographical distribution of small and medium-sized companies and consultancy companies. The population was divided into five regions (Slavonia, Central Croatia, Zagreb and surroundings, Dalmatia and Primorje), and random sampling was conducted within each region.

---

<sup>10</sup> HAMAG's network of business advisers and consultants exists, but it does not perform certification nor management of services of advisers or consultants, info available on <http://www.hamagbicro.hr/konzultantske-usluge/konzultantske-usluge/odaberite-konzultanta/>, accessed on March 29, 2016

<sup>11</sup> Alpeza, M., Mikrut, M., Oberman Peterka, S., Delic, A. (2014), Croatia Consultancy Market Study, CEPOR and European Bank for Reconstruction and Development, Zagreb, available on <http://www.cepor.hr/wp-content/uploads/2015/07/Croatia-Consultancy-Market-Study-HR.pdf>, accessed on April 1, 2016

In all five regions, a total of 303 respondents from the sector of small and medium-sized companies were interviewed (out of 60,000 that had filed their final financial statements in 2012), and 60 consultancy companies (500 were identified through secondary research).

## 5. Research results and conclusion

The market of consultancy and advisory services in Croatia comprises of the offer of business support institutions and 500 different domestic and foreign companies that are oriented to providing advisory and consultancy support. Despite such a large supply, primary research showed that in the three observed years (2011-2014) just 22% of owners of small and medium-sized companies used advisory or consultancy services. The reasons for the very low percentage of owners who have used these services were related to the fact that as many as 67% of SME owners were able to solve the issue internally, while only 0.8% stated that they previously had very bad experiences with consultants. According to the results of secondary research, the majority of the problems faced by owners of small and medium-sized companies are related to insufficient availability of sources of financing, corruption and informal sector, for the resolution of which consultants and advisers do not have appropriate advice and assistance. On the other hand, small and medium-sized companies, despite the fact that they do need assistance, they very rarely reach out for it outside the company's contacts (Berry and Sweeting, 2006). Aronoff (1996) has offered several possible causes for this paradigm – from the fact that owners are ready to share confidential information only within the circle of people they trust, to inability to find a consultant or adviser who can help them with the problem.

A very important factor in the client – consultant relationship is the contract, which defines objectives and expectations, and a confidentiality clause relating to collected data and information is signed (Czerniewska, 2006). The results of primary research indicate previous bad experience working with consultants and advisers (0.8% of SME owners), inadequate supply (0.8% of SME owners) and general lack of confidence in consultants (2.3% of SME owners). Consultants and advisers are hired on the basis of recommendations, or ratings that they have gained on previous assignments (71.6% of SME owners), while owners deem that knowledge and expertise are the most important characteristics of consultants (advisers), as well as understanding of the business problem.

These results are a reflection of the barriers in the business environment, as well as of the disorganization of the market of consultancy and advisory services. Owners of small and medium-sized companies have little trust in state institutions, which include business support institutions (only 11.2% of SME owners trust state institutions). Other companies that provide consultancy and advisory services are not certified, nor, in the entrepreneurs' opinion, they can understand and solve the problem that arose in the company (1.5% of SME owners). Despite the low level trust of users, consultancy and advisory services provided by business support institutions are co-financed by the state, which puts the companies that are engaged exclusively in providing this service in an uncompetitive position. Owners of small and medium-sized companies are interested in using this service when it is co-financed (25% of SME owners would use the service if it was co-financed), and when individual consultancy and advisory companies would specialise for specific sectors and industries.

There have been attempts to solve the problem of certification of consultants and advisers in Croatia for many years, but none of the certification attempts have been fully accepted, which is causing distrust in owners of small and medium-sized companies, as well as a problem when looking for consultants or advisers. Only less than one-third of owners of small and medium-sized companies will in the future (again) use the services of consultants and advisers (29%), while a large portion of the market of small and medium-sized companies (45% of the small and medium-sized company sector) still remains inaccessible to any form of consultancy or advisory service.

The need for consultancy and advisory services exists, primarily in the area of business planning (70.6% of SME owners), and searching for business partners and investors (57.4% of SME owners). But, consultants and advisers, as for example one of a key players in the process of business transfer, need to build stronger relationships with their clients (Seabright et al., 1992), specialise in specific sectors and industries, and make their services more accessible to the small and medium-sized company sector, which primarily trust domestic consultancy and advisory companies (91% of owners of small and medium-sized companies).

## REFERENCES

- Alpeza, M., Biskupic, N., Eterovic, D., Gucic, E., Oberman Peterka, S., Singer, S., Sarlija, N. (2015): *Small and Medium Enterprises Report – Croatia 2014. including the results of GEM – Global Entrepreneurship Monitor research for Croatia 2013*, CEPOR, Zagreb, available on <http://www.cepor.hr/wp-content/uploads/2015/03/Cepor-godisnje-izvjesce-ENG-web-2014.pdf> (accessed April 10,2016)
- Alpeza, M., Mikrut, M., Oberman Peterka, S., Delic, A. (2014): *Croatia Consultancy Market Study, CEPOR and European Bank for Reconstruction and Development, Zagreb*, available on <http://www.cepor.hr/wp-content/uploads/2015/07/Croatia-Consultancy-Market-Study-HR.pdf> (accessed on April 1,2016)
- Aronoff, C. E., Ward, J.L. (1996): *Why So Few Business Owners Get and Accept Good Advice*, Small Business Forum, Vol.14, No.2, pp:26-39
- Beck, T., Demirguc-Kunt, A. (2006): *Small and medium-sized enterprises: Access to finance as a growth constraint*, Journal of Banking and Finance 30, p. 2937.
- Berry, A. J., Sweeting, R. (2006): *The effect of business advisers on the performance of SMEs, Journal of Small Business and Enterprise Development*, Vol. 13, No. 1, pp. 33-47
- Blackburn, R., Jarvis, R. (2010): *The Role of small and medium practices in providing business support to small and medium-sized enterprises*, Information paper, International Federation of Accountants, April, available on <http://eprints.kingston.ac.uk/12261/1/Blackburn-R-12261.pdf>, (accessed March 22,2016)
- Business Environment and Enterprise Performance Study and Governance Matter – BEEPS*, EBRD and World Bank, 2014, available on <http://ebrd-beeps.com/wp-content/uploads/2015/04/croatia.pdf> ( accessed March 23,2016)
- Business Environment Rankings: Which country is best to do business in?*, The Economist Intelligence Unit, 2014, available on [http://pages.eiu.com/rs/eiu2/images/BER\\_2014.pdf?mkt\\_tok=3RkMMJWWfF9wsRogsqrBZKXoniHpfsX67eosWKexIMI%2F0ER3fOvrPUfGjI4ES8pmI%2BSLDwEYgJlv6SgFTbjGMbht2bgMUhU%3D](http://pages.eiu.com/rs/eiu2/images/BER_2014.pdf?mkt_tok=3RkMMJWWfF9wsRogsqrBZKXoniHpfsX67eosWKexIMI%2F0ER3fOvrPUfGjI4ES8pmI%2BSLDwEYgJlv6SgFTbjGMbht2bgMUhU%3D) (accessed on March 23,2016)
- Christensen, P.R., Klyver, K. (2006): *Management consultancy in small firms: how does interaction work?*, Journal of Small Business and Enterprise Development, 13(3), pp. 299-313.
- Czerniewska, F. (2006): *Consultant: good, Consulting company: bad*, Consulting to Management, June, 17, 2

- Doing Business in Croatia**, World Bank Group, available on <http://www.doingbusiness.org/data/exploreeconomies/croatia/> (accessed on March 24,2016)
- Dutta, S., Lanvin, B., Wunsch-Vincent, S. (2015): *The Global Innovation Index 2015:Effective Innovation Policies for Development*, Johnson Cornell University, INSEAD, WIPO, Switzerland, available on <https://www.globalinnovationindex.org/userfiles/file/reportpdf/GII-2015-v5.pdf> (accessed April 10,2016)
- Dyer, L.M., Ross, C.A. (2008): *Seeking advice in a dynamic and complex business environment: Impact on the success of small firms*, Journal of Developmental Entrepreneurship, 13(2), pp. 133-149.
- European Commission (2014): *Annual Report on European SMEs 2013/2014 – A Partial and Fragile Recovery*, July ([http://ec.europa.eu/growth/smes/business-friendly-environment/performance-review/files/supporting-documents/2014/annual-report-smes-2014\\_en.pdf](http://ec.europa.eu/growth/smes/business-friendly-environment/performance-review/files/supporting-documents/2014/annual-report-smes-2014_en.pdf)) (accessed March 25,2016)
- Mihai, D. (2009): *Quantitative study regarding the SME's organizational behavior as regarding management consultancy services*, Bulletin of the Transilvania University of Brasov, Series V: Economic Sciences, Vol. 2 (51), pp. 43-46
- Ministry of Entrepreneurship and Crafts (2012): *The Croatian SME Observatory Report*, Zagreb (<https://poduzetnistvo.gov.hr/UserDocsImages/EU%20projekti/IPA%20IIIC/Pobolj%C5%A1anje%20administrativne%20u%C4%8Dinkovitosti%20na%20nacionalnoj%20razini/Izvjestaj%20opservatorija-2012.pdf>) (accessed March 23,2016)
- Nikolescu, L., Nikolae, M., Tudorache, G.F. (2013): *Romanian SMEs and advisory services: some descriptives*, International Journal of Academic Research, Vol.5, No. 4, pp. 365-374.
- Seabright, M.A., Leventhal, D.A., Fichman, M. (1992): *Role of individual attachments to the dissolution of inter-organisational relationship*, Academy of Management Journal, Vol. 35, pp. 122-160
- Singer, S., Šarlija, N., Pfeifer, S. et al. (2012): *What makes Croatia a (non)entrepreneurial country? Global Entrepreneurship Monitor Croatia 2002-2011*, Faculty of Economics in Osijek and CEPOR Croatia, available on <http://www.cepor.hr/GEM-brosura-2002-2011-eng-za-web.pdf> (accessed March 23,2016)
- Varamaki, E.; Viljamaa, A.; Tall, J. and Lansiluoto, A. (2014): *The Success of SME Business Transfers–Buyers' and Successors' Perspective*, Proceedings of ICSB Conference, 11-14.6.2014, Dublin, Ireland, available on <http://www.icsb2014.org/programme.html> (accessed April 1,2016)
- Viljamaa, A., Tall, J., Varamäki, E., Singer, S., & Durst, S. (2015): *Business transfer ecosystems and awareness raising activities*, available on <https://www.his.se/PageFiles/31607/B108.pdf> (accessed April 1,2016)

**Nikolina Gazilj, mag.iur., Business Development Manager**

Institution/Affiliation: Office of Entrepreneurial Development

Postal Address: Dragutina Lermana 10, 34 000 Požega

Phone: 00385 98 974 2816

E-mail address: nikolina.gazilj1@gmail.com

**mr.sc. Antun Marinac, Senior Lecturer**

Institution/Affiliation: Polytecnic in Požega

Postal Address: Vukovarska 17, 34 000 Požega

Phone: 00385 98 931 60 55

E-mail address: amarinac@vup.hr

**Tena Emanović, student**

Institution/Affiliation: Polytecnic in Požega

Postal Address: Vukovarska 17, 34 000 Požega

E-mail address: tena.emanovic1@gmail.com

**LEGAL BASIS OF REGIONAL DEVELOPMENT OF EASTERN CROATIA  
FROM EUROPEAN AND CROATIAN PERSPECTIVE AND THE  
QUESTION OF ITS EFFECTIVENESS**

**PRAVNA OSNOVA REGIONALNOG RAZVOJA ISTOČNE HRVATSKE U  
EUROPSKOJ I HRVATSKOJ PERSPEKTIVI I PITANJE NJENE  
DJELOTVORNOSTI**

**ABSTRACT**

*The paper analyses the legal basis for regional development of Eastern Croatia and its effectiveness. The research methodologies used include following methods: normative method, secondary researches, comparative method, historical and statistical methods. The research results show that there is legal basis for regional development of Eastern Croatia. The economic, social and territorial cohesion, aimed towards balanced regional development, the Lisbon Treaty lists as: a) as fundamental objective of the Union, b) as shared competence between the Union and the Member States and as the fundamental European policy, institutionalized in Articles 174-178 of the Treaty on the Functioning of the European Union. The Lisbon Treaty stipulates that in order to promote the overall harmonious development, the Union develops and implements its actions leading to strengthening of economic, social and territorial cohesion. The Croatian Constitution provides: the State's responsibility for the economic development of all its regions, the State's responsibility for the areas of interest to the Republic of Croatia and the areas of special state concern, the responsibility of the State to assist financially the weaker units of local government, as well as the responsibility of the Republic of Croatia for the implementation of the objectives and the Union law. The Act on Regional Development in 2014 defined the goal of Regional development policy of the Republic of Croatia: contribute to the socio-economic development of the Republic of Croatia, in accordance with the principles of sustainable development, creating conditions that will allow all parts of the country to strengthen the competitiveness and the implementation of their development potential. However, the accent is placed on actual ineffectiveness of legal norms. The key problem is that the region of Eastern Croatia states decreased economic and social development. One of the major reasons of the development fall is that the region of Eastern Croatia is not complete European region with self-governing status. This area consists of five counties:*

*Osijek-Baranja, Vukovar-Brod-Posavina, Virovitica-Podravina and Požega-Slavonia County. Therefore, with necessary implementation of the regionalization of the Croatian territory, as well as possible solutions to development problems, the authors in particular propose efficient use of the EU funds and greater responsibility and effectiveness of the government institutions.*

**Key words:** Eastern Slavonia, the Lisbon Treaty, regional development, the Constitution, the Law on Regional Development.

## SAŽETAK

*U radu se analizira pravna osnova regionalnog razvoja Istočne Hrvatske i njena djelotvornost. Od metodologije istraživanja korištene su sljedeće metode: normativistička metoda, sekundarna istraživanja, komparativna metoda, povijesna te statistička metoda. Rezultati istraživanja pokazuju kako postoji pravna osnova za regionalni razvoj Istočne Hrvatske. Gospodarska, socijalna i teritorijalna kohezija, čiji cilj je ravnomjeran regionalni razvoj, u Lisabonskom ugovoru navedena je: a) kao temeljni cilj Unije, b) kao podijeljena nadležnost između Unije i država članica te kao temeljna europska politika, institucionalizirana u člancima 174.-178. Ugovora o funkcioniranju Europske unije. Lisabonskim ugovorom određeno je da radi promicanja cjelokupnog skladnog razvoja, Unija razvija i provodi svoja djelovanja koja dovode do ojačavanja gospodarske, socijalne i teritorijalne kohezije. Hrvatski Ustav propisuje: odgovornost Države za gospodarski razvoj svih svojih krajeva, odgovornost Države za područja od interesa za Republiku Hrvatsku i područja od posebne državne skrbi, odgovornost Države za pomoć financijski slabijim jedinicama lokalne samouprave, kao i odgovornost Republike Hrvatske za provedbu ciljeva i prava Unije. Zakonom o regionalnom razvoju iz 2014. godine utvrđen je cilj politike regionalnog razvoja Republike Hrvatske: pridonijeti društveno-gospodarskom razvoju Republike Hrvatske, u skladu s načelima održivog razvoja, stvaranjem uvjeta koji će svim dijelovima zemlje omogućavati jačanje konkurentnosti i realizaciju vlastitih razvojnih potencijala. Međutim do izražaja dolazi zbiljska nedjelotvornost pravnih normi. Ključni problem je što regija Istočna Hrvatska bilježi pad gospodarskog i društvenog razvoja. Jedan od značajnijih razloga razvojnog podbačaja je što regija Istočna Hrvatska nije kompletna europska regija sa samoupravnim statusom. Navedeno područje sastoji se od pet županija: Osječko-baranjske, Vukovarsko-srijemske, Brodsko-posavske, Virovitičko-podravske te Požeško-slavonske županije. Stoga, uz nužnu provedbu regionalizacije hrvatskog teritorija, kao moguća rješenja razvojnih problema, autori posebice predlažu učinkovito korištenje sredstava iz fondova EU te veću odgovornost i djelotvornost institucija vlasti.*

**Ključne riječi:** Istočna Slavonija, Lisabonski ugovor, regionalni razvoj, Ustav, Zakon o regionalnom razvoju.

## 1. Introduction

In the European Union and Croatia, throughout history regional characteristics have manifested, and thus the need for regional development. Already at a glance of the Croatian coat of arms it can be concluded that Slavonia is a historical region, which should be considered when regionalising the Republic of Croatia.

However, Croatian territory is characterised by significant regional differences.

The territory of Eastern Croatia or Slavonia consists of five counties: Brod-Posavina County, Osijek-Baranja County, Požega-Slavonia County, Virovitica-Podravina County and Vukovar-Srijem County; it is one of the least developed parts of Croatian territory. For the purposes of balanced regional development of Croatian territory, a legal basis is necessary (which largely exists). However, its effectiveness is also important.



## **2. Constitutional and legal basis of the territorial division of the Republic of Croatia**

The Constitution of the Republic of Croatia defines the basis of territorial organisation (Art. 134), where the national territory is divided into: local self-government units (municipalities and cities) and regional self-government units (counties).

However, the European Commission warned in “Country Report Croatia 2015” about the problem of inefficient territorial organisation, adding, “The administrative fragmentation and poor management of the public sector lead to low spending efficiency and poor management of public finances. Due to the fragmentation of local and regional self-government units, i.e. 428 municipalities, 127 cities, 20 counties and the City of Zagreb (special status), their administrative capacities are weakened and their economic efficiency hampered.”

### **2.1. The division of the Republic of Croatia into statistical regions – the condition for using EU funds**

The new Nomenclature of Territorial Units for Statistics in the Republic of Croatia has applied since 1 January 2013. Pursuant to its Article 3, territorial units of the 1st, 2nd and 3rd level have been established. Croatia is divided into two regions: 1) Continental Croatia (City of Zagreb, Zagreb County, Virovitica-Podravina County, Požega-Slavonia County, Brod-Posavina County, Osijek-Baranja County, Vukovar-Srijem County, Krapina-Zagorje County, Varaždin County, Koprivnica-Križevci County, Međimurje County, Bjelovar-Bilogora County, Karlovac County and Sisak-Moslavina County); and 2) Adriatic Croatia (the remaining seven counties).

The new statistical division again sparked heated debates and protests, especially by Slavonian counties.

As basic advantages of the new division into two statistical regions the representatives of the Government of the Republic of Croatia listed the following: all Croatian territories can use EU funds with the highest level of benefits, at least until 2027.; a higher level of state support is provided to beneficiaries in northwest Croatia; planning and implementation of development projects are facilitated by equal rules for the whole of Croatian territory; the inclusion of the City of Zagreb increases the total absorption capacity of the Republic of Croatia and the administrative monitoring of Operational Programmes’ implementation is facilitated.

However, the Government of the Republic of Croatia omits the following facts: the same region includes the City of Zagreb with 125% of Croatia’s developmental average and Slavonia with only 34%, for the purposes of obtaining EU funds intended for balanced development of all parts of the European Union (this actually sets a precedent of a kind, because the Government’s Decision on the division into two statistical regions actually joins what is not joinable) and the big region model with the City of Zagreb included is not good from the standpoint of accessing EU structural funds.

In authors’ opinions, this kind of division is to the detriment of the poor regions, especially Slavonia, since there are no previous examples of joining the richest regions (Zagreb) with the poorest (Slavonia).

### **2.2. Slavonia**

What makes the region of Slavonia special is nature – the geographical location which determines its specific territorial identity. Slavonia is, according to economic development, in the last place in relation to other parts of state territory. Not so long ago, people were coming to Slavonia to get rich, and today they are moving out.

From the 18th century onwards, the region of Slavonia attracted farmers, artisans, merchants and other people from different parts of Europe, especially from the Austrian Empire / Habsburg Empire and Prussia (later Germany), with its favourable natural and geographical location. The end of the 18th and the beginning of the 19th century enabled intensive settling of the German and the

Austrian along with the Serbian people, and Hungarians arrived attracted by affordable land purchase. There were also Slovaks, Czechs and others ([www.unios.hr](http://www.unios.hr)).

As a historical region of Croatia, Slavonia has got significant resources (human and natural). History itself says that Slavonia fed Croatia, and today it depends on the state's support.

The basic problems of Slavonia are: a lack of responsibility of public authorities for this area, unrealised regionalisation and decentralisation, the collapse of the manufacturing industry, emigration, war devastation, focusing on traditional activities etc.

Slavonia needs developmental measures which would start from the main resource – modernisation of agricultural production, especially by shifting away from the traditional production and by focusing on competitive cultures. Regulation of watercourses and irrigation are key measures for development, since Slavonia often experiences emergencies: floods and drought.

### **3. Legal basis of regional development of the European Union**

Economic, social and territorial cohesion, aimed at balanced regional development of the entire territory of the European Union, is listed in the Lisbon Treaty and its annexes as:

- a) the fundamental objective of the Union (Article 3 of the Treaty on European Union, hereinafter referred to as “TEU”),
- b) a shared competence between the Union and the member states (Article 4, section 2, paragraph 2 of the Treaty on the Functioning of the European Union, hereinafter referred to as “TFEU”),
- c) a fundamental European policy (institutionalised in Articles 174 to 178 of the TFEU) and
- d) in the context of its importance for services of general economic interest (Article 14 of the TFEU).

It is also important to point out that there is a special Protocol no. 28 on economic and social cohesion as an annex to the Lisbon Treaty.

Article 174 of the Treaty on the Functioning of the European Union defines the fundamental objectives of the cohesion policy, stipulating:

- 1) “In order to promote its overall harmonious development, the Union shall develop and pursue its actions leading to the strengthening of its economic, social and territorial cohesion” (Article 174, section 1). The above paragraph obliges the European Union as a political institution to take measures to achieve a balanced development and cohesion;
- 2) “In particular, the Union shall aim at reducing disparities between the levels of development of the various regions and the backwardness of the least favoured regions” (Article 174, section 2). With regard to previous basic treaties of the European Union, this objective remains unaltered;
- 3) The European Union in accordance with Article 174, section 3 of the Treaty on the Functioning of the European Union pays special attention to areas with specific developmental issues – “rural areas, areas affected by industrial transition, and regions which suffer from severe and permanent natural or demographic handicaps such as the northernmost regions with very low population density and island, cross-border and mountain regions.”

Legislative acts related to cohesion policy in the period from 2014 to 2020 were adopted by the European Parliament and by the Council on 17 December 2013 and they consist of eight regulations: one umbrella Regulation (common provisions on European funds), four regulations on European funds (individually) and two regulations on European territorial cooperation.

1) Regulation (EU) No. 1303/2013 of the European Parliament and of the Council of 17 December 2013 laying down common provisions on the European Regional Development Fund, the European Social Fund, the Cohesion Fund, the European Agricultural Fund for Rural Development and the European Maritime and Fisheries Fund and laying down general provisions on the European Regional Development Fund, the European Social Fund, the Cohesion Fund and the European Maritime and Fisheries Fund and repealing Council Regulation (EC) No. 1083/2006. The objective of the Regulation (EU) No. 1303/2013 is to strengthen economic, social and territorial cohesion by reducing existing disparities in the European Union. The Regulation is intended to achieve appropriate concentration of cohesion funds for the least favoured regions and member states. This

Regulation defines common provisions that apply to the European Regional Development Fund, the European Social Fund, the Cohesion Fund, the European Agricultural Fund for Rural Development and the European Maritime and Fisheries Fund which operate in accordance with a common framework.

The umbrella Regulation divides the regions by the level of development into: (a) less developed regions, whose GDP per capita is less than 75% of the average GDP of EU-27 countries; (b) transition regions, whose GDP per capita is between 75 and 90% of the average GDP of EU-27 countries and (c) more developed regions, whose GDP per capita is higher than 90% of the average GDP of EU-27 countries.

2) Regulation (EU) No. 1301/2013 of the European Parliament and of the Council of 17 December 2013 on the European Regional Development Fund and on specific provisions concerning the Investment for growth and jobs goal and repealing Regulation (EC) No. 1080/2006. This Regulation establishes the tasks of the European Regional Development Fund, the scope of its support with regard to the Investment for growth and jobs goal and the European territorial cooperation goal (Article 1).

3) Regulation (EU) No. 1304/2013 of the European Parliament and of the Council of 17 December 2013 on the European Social Fund and repealing Council Regulation (EC) No. 1081/2006. This Regulation establishes the missions of the European Social Fund, including the Youth Employment Initiative, the scope of its support, specific provisions and the types of expenditure eligible for assistance (Article 1).

4) Regulation (EU) No. 1300/2013 of the European Parliament and of the Council of 17 December 2013 on the Cohesion Fund and repealing Council Regulation (EC) No. 1084/2006. The above regulation establishes the Cohesion Fund, for the purpose of strengthening the economic, social and territorial cohesion of the Union in the interests of promoting sustainable development and establishes the tasks of the Cohesion Fund and the scope of its support with regard to the Investment for growth and jobs goal.

5) Regulation (EU) No. 1305/2013 of the European Parliament and of the Council of 17 December 2013 on support for rural development by the European Agricultural Fund for Rural Development and repealing Council Regulation (EC) No. 1698/2005. This regulation sets out the objectives to which rural development policy is to contribute and the relevant Union priorities for rural development. It outlines the strategic context for rural development policy and defines the measures of rural development policy (Article 1).

6) Regulation (EU) No. 508/2014 of the European Parliament and of the Council of 15 May 2014 on the European Maritime and Fisheries Fund and repealing Council Regulations (EC) No. 2328/2003, (EC) No. 861/2006, (EC) No. 1198/2006 and (EC) No. 791/2007 and Regulation (EU) No. 1255/2011 of the European Parliament and of the Council. This Regulation establishes the European Maritime and Fisheries Fund and defines Union financial measures for the implementation of: (a) the Common Fisheries Policy, (b) relevant measures relating to the Law of the Sea, (c) the sustainable development of fisheries and aquaculture areas and inland fishing, and d) the Integrated Maritime Policy.

7) Regulation (EU) No. 1299/2013 of the European Parliament and of the Council of 17 December 2013 on specific provisions for the support from the European Regional Development Fund to the European territorial cooperation goal. This Regulation establishes the scope of the European Regional Development Fund with regard to the European territorial cooperation goal and lays down specific provisions concerning that goal. The Regulation also defines the priority objectives and organisation of the European Regional Development Fund. It also lays down the provisions necessary to ensure effective implementation, monitoring, financial management and control of operational programmes under the European territorial cooperation goal, including when third countries participate in such cooperation programmes (Articles 1 and 2).

8) Regulation (EU) No. 1302/2013 of the European Parliament and of the Council of 17 December 2013 amending Regulation (EC) No. 1082/2006 on a European grouping of territorial cooperation as regards the clarification, simplification and improvement of the establishment and functioning of

such groupings. The regulation defines the establishment of a European grouping of territorial cooperation on Union territory. The objective of the Regulation is to facilitate and promote, in particular, territorial cooperation, including one or more of the cross-border, transnational and interregional strands of cooperation, between its members with the aim of strengthening Union economic, social and territorial cohesion.

Common to all these Regulations as legislative acts related to the cohesion policy in the period from 2014 to 2020 is: they were adopted by the European Parliament and by the European Council in accordance with the ordinary legislative procedure, their drafts had previously been forwarded to the national parliaments, they were published in the Official Journal of the European Union of 20 December 2013 and of 20 May 2014, they have a legal basis for the adoption into the TFEU, they promote the Union objective (strengthening economic, social and territorial cohesion) by the principle of balanced development and cohesion, and are fully binding and directly applicable in all member states.

#### **4. Legal basis of regional development of the Republic of Croatia**

The Croatian Constitution lays down the legal basis of regional development in the following provisions:

1) The state shall encourage the economic progress of all its regions (Article 49, section 3 of the Constitution). Vedran Đulabić critically comments on the mentioned constitutional provision, stating, “Although the concern about the economic progress of all regions presents a constitutional category and belongs to the chapter on economic, social and cultural rights of the Republic of Croatia, regional policy in the contemporary sense did not find an adequate place in Croatia’s public politics system for a long time. During most of the independence period, regional policy was led primarily as an expression of a reaction to existing developmental problems” (Đulabić, 2010, 7, 8). The fact is that the State has fully ignored the needs of the people of Slavonia.

2) The constitutional obligation of the State is to particularly protect the areas which are specified by law to be of interest to the Republic of Croatia (Article 52 of the Constitution). The areas specified by law to be of interest to the Republic of Croatia and to enjoy its special protection are: islands, hilly and mountainous areas and the City of Vukovar. In addition to the previously mentioned areas, the law also specifies areas of special state concern;

3) “The state shall provide financial assistance to weaker units of local and regional self-government in compliance with the law” (Article 138, section 3 of the Constitution). The previous centralised policy of solidarity and assistance to the least developed units of local self-government did not have expected results or stop the differences between rich and poor units. The key objection to the former local self-government assistance system referred to its favouring of the hilly and mountainous areas and areas of special state concern and southern parts of the country, regardless of the actual attained power of those municipalities and cities.

4) The Republic of Croatia as a member state of the European Union, besides ensuring lasting peace, liberty, security and prosperity, participates in the attainment of other common objectives (among them is promoting economic, social and territorial cohesion), in keeping with the founding principles and values of the European Union (Article 143, section 1 of the Constitution).

The laws on regional development are very important for the management of regional policy, but are not the only instrument for establishing the management of regional policy. In addition to the laws, regional development strategies are also important, for instance.

Regional Development Act of 2014 established the objective of regional development policy of the Republic of Croatia: to contribute to the socio-economic development of the Republic of Croatia, in accordance with the principles of sustainable development, by creating conditions which will enable all parts of the country to strengthen their competitiveness and to realise their development potentials.

According to Vedran Đulabić, “In case there is no consensus on the role of mid-level government, often the regional development act serves as a point in the legal system on which the regional level relies considerably” (Đulabić, 2007, 160).

## 5. Differences in development

The decision on the classification of local and regional self-government units by level of development has applied since 1 January 2014 and it classifies regional self-government units into 4 groups according to the development index (Table 3).

*Table 1: Differences in development of Croatian counties*

County	development % 15 July 2010	development % 27 December 2013	Difference
<b>Group I (up to 75% of development):</b>			
1 Virovitica-Podravina County	20.51	5.56	-14.95
3 Brod-Posavina County	33.36	18.43	-14.93
2 Vukovar-Srijem County	20.57	18.73	-1.84
4 Bjelovar-Bilogora County	35.17	23.29	-11.88
5 Požega-Slavonia County	43.95	33.81	-10.14
6 Sisak-Moslavina County	48.50	38.70	-9.8
7 Osijek-Baranja County	52.88	46.07	-6.81
8 Karlovac County	54.52	56.34	1.82
9 Koprivnica-Križevci County	64.32	59.19	-5.13
10 Lika-Senj County	55.48	64.82	9.34
11 Međimurje County	75.11	69.65	-5.46
12 Krapina-Zagorje County	87.72	73.24	-14.48
<b>Group II (75 – 100% of development):</b>			
13 Šibenik-Knin County	63.30	80.93	17.63
14 Varaždin County	96.30	86.34	-9.96
15 Split-Dalmatia County	89.09	93.75	4.66
<b>Group III (over 100% of development):</b>			
16 Zadar County	75.59	106.39	30.80
17 Dubrovnik-Neretva County	107.93	120.84	12.91
18 Zagreb County	123.22	124.23	1.01
<b>Group IV (over 125% of development):</b>			
19 Primorje-Gorski Kotar County	142.32	139.21	-3.11
20 Istria County	156.13	156.80	0.67
21 City of Zagreb	187.54	186.44	-1.1

*Source: Evaluation and classification of counties by development, County calculation, 15 Jul 2010, Evaluation and classification of counties by development, County calculation, 27 Dec 2013.*

Classification of units by level of development should ensure a more balanced development of all regions of Croatia. Calculation of development of Croatian counties made on 27 December 2013 was based on: average income, average original income, average unemployment rate, population trends and the proportion of educated population.

In order to achieve balanced regional development, Croatia needs regionalisation. Regions, as units of regional self-government, can be introduced into the Croatian Constitution only by changing the Constitution. Although the idea to change the territorial organisation, as a part of constitutional changes, emerged in 2013 (initiative by members of parliament) and 2014 (initiative by the then president Josipović), it has not taken hold.

One of the basic tasks of the regional level of public administration is to ensure, promote and start up regional development, which is interpreted primarily as development in economic terms, with accompanying favourable effects on the social situation in a certain region (Koprić, 2010, 3).

Although regionalisation has different motives, the basic motive for regionalisation is the desire for self-government in the territories which have a strong sense of regional identity. In places where regional identity is more strongly expressed, there is a greater possibility of developing political

regions, where they have a significant role in social and political life. Also, the most frequent motive for regionalisation is the fact that it enables a more effective implementation of Union regional policy.

Regions have a significant effect on the political, economic and legal systems of a country. They have a positive role in: the political system (democracy and autonomy), the economic life (regions are the backbone of economic development of the modern state) and the legal system (about three quarters of EU legislation is implemented at the local and regional levels).

A region is a favourable area for development and for measuring the development, in the territory of the European Union. This is confirmed by the Declaration on Regionalism in Europe (1996), which in Article 3 emphasizes, "Regions are an essential and irreplaceable element of European development and integration."

In the context of development and economic cohesion, the previous statement is confirmed by the European Parliament in the Resolution on Community regional policy and the role of the regions of 1998, which emphasizes that "the most appropriate geographical and institutional level for drafting and applying a regional policy [...] should be NUTS 2 regional level" (paragraph 18).

Among the main and most important elements of existence of the political (self-governing) region are autonomous political processes manifested in the existence of democratic, secret and multi-party elections for representative and/or executive bodies of the region, a legal personality, its own taxes and other autonomous sources of financing, a wide range of activities in the scope of self-government, limiting state control to the control of constitutionality and legality, possibilities of cooperation with other self-government units in the state or abroad (cross-border and inter-regional cooperation) etc. A special feature of the political region is the possibility of legislative action manifested in the power to pass regional laws or acts. In cases where regions have the possibility of passing laws, there are normally several categories of so-called regional laws. Those may be laws for the implementation of laws adopted by the central government, but without the possibility of their detailed elaboration. Then, laws which further elaborate the laws adopted by the central government and laws in which fully autonomously, and under the general principles of constitutionality and legality, various issues within the scope of the regional self-government are defined (Đulabić, 2009, 912).

## **6. Conclusion**

Although in the European and Croatian legal systems there are norms that promote balanced regional development, the case of Eastern Croatia manifests their actual inefficiency. The basic problem is that the region of Eastern Croatia has recorded a decrease in economic and social development. One of the more significant reasons is the fact that Eastern Croatia is not a complete European region with self-governing status. This area consists of five counties: Osijek-Baranja, Vukovar-Srijem, Brod-Posavina, Virovitica-Podravina and Požega-Slavonia. Therefore, along with the necessary implementation of the regionalisation of Croatian territory, as possible solutions to developmental issues the authors specifically propose an efficient use of EU funds and greater responsibility and effectiveness of government institutions.

A significant share of Croatian counties, due to their size and resources, cannot be effective as regions which would drive the development. For this reason, the ones that cannot survive on their own should be rationally united and capacitated. What cannot drive the development either are the so-called statistical regions, unnaturally formed by uniting spatially very distant areas in the Republic of Croatia in order to meet EU criteria for using structural funds' resources. Therefore, if measures are not taken soon concerning real and developmentally envisioned regionalisation, Croatia will fall into even greater territorial imbalances, no matter how relatively small it is compared to other countries.

In recent years, region autonomy within the European Union has been prominent. Direct representation of regions in the Committee of the Regions and the Assembly of European Regions

enables regions to pass political decisions at the European level without prior consultation with the governments of nation states. This means that region representatives can make decisions in the umbrella bodies of the EU outside of their countries, which contributes to the weakening of the nation state, and to the strengthening of regions.

## REFERENCES

Declaration on Regionalism in Europe, Assembly of European Regions, 1996.

Dulabić, V.: Regionalizam i regionalna politika, Društveno Veleučilište u Zagrebu, Zagreb, 2007., str. 160.

Dulabić, V.: Pojmovnik, Hrvatska javna uprava, god. 9. (2009.), br. 3., str. 911–916., str. 912.

Dulabić, V. : Novine u regionalnom razvoju i regionalnoj politici, Rad predstavljen na savjetovanju Instituta za javnu upravu „Kakva reforma lokalne samouprave?“, Zagreb, 22. travnja 2010.

European Parliament Resolution on Community regional policy and the role of the regions, Official Journal of the European Communities No C 326/289, 18 November 1988.

Izješće za Hrvatsku 2015., s detaljnim preispitivanjem o sprječavanju i ispravljanju makroekonomskih neravnoteža, Europska komisija, Bruxelles, 26.2.2015. SWD(2015) 30 final, str 1 i 45.

Koprić, I.: Regionalizacija Hrvatske, dostupno na:

[https://www.academia.edu/11163744/Regionalizacija\\_Hrvatske](https://www.academia.edu/11163744/Regionalizacija_Hrvatske), str. 3. pristup: 23.03.2015.

Nacionalna klasifikacija prostornih jedinica za statistiku 2012. , Narodne novine, br. 96/12 i 102/12. Odluka o razvrstavanju jedinica lokalne i područne (regionalne) samouprave prema stupnju razvijenosti, Narodne novine, br. 158/13.

Protokol 28. o gospodarskoj, socijalnoj i teritorijalnoj koheziji, dodatak Lisabonskom ugovoru Regulation (EU) No 508/2014 the European Parliament and of the Council of 15 May 2014 on the European Maritime and Fisheries Fund and repealing Council Regulations (EC) No 2328/2003, (EC) No 861/2006, (EC) No 1198/2006 and (EC) No 791/2007 and Regulation (EU) No 1255/2011 of the European Parliament and of the Council, Official Journal of the European Union L 149/1, 20.5.2014.

Regulation (EU) No 1299/2013 of the European Parliament and of the Council of 17 December 2013 on specific provisions for the support from the European Regional Development Fund to the European territorial cooperation goal, Official Journal of the European Union, L 347/259, 20.12.2013.

Regulation (EU) No 1300/2013 of the European Parliament and of the Council of 17 December 2013 on the Cohesion Fund and repealing Council Regulation (EC) No 1084/2006, Official Journal of the European Union L 347/281, 20.12.2013.

Regulation (EU) No 1301/2013 of the European Parliament and of the Council of 17 December 2013 on the European Regional Development Fund and on specific provisions concerning the Investment for growth and jobs goal and repealing Regulation (EC) No 1080/2006, Official Journal of the European Union L 347/289, 20.12.2013.

Regulation (EU) No 1302/2013 of the European Parliament and of the Council of 17 December 2013 amending Regulation (EC) No 1082/2006 on a European grouping of territorial cooperation (EGTC) as regards the clarification, simplification and improvement of the establishment and functioning of such groupings, Official Journal of the European Union, L 347/303, 20.12.2013.

Regulation (EU) No 1303/2013 of the European Parliament and of the Council of 17 December 2013 laying down common provisions on the European Regional Development Fund, the European Social Fund, the Cohesion Fund, the European Agricultural Fund for Rural Development and the European Maritime and Fisheries Fund and laying down general provisions on the European Regional Development Fund, the European Social Fund, the Cohesion Fund and the European Maritime and Fisheries Fund and repealing Council Regulation (EC) No 1083/2006, Official Journal of the European Union, L 347/ 320, 20.12.2013.

Regulation (EU) No 1304/2013 of the European Parliament and of the Council of 17 December 2013 on the European Social Fund and repealing Council Regulation (EC) No 1081/2006, Official Journal of the European Union L 347/470, 20.12.2013.

Regulation (EU) No 1305/2013 of the European Parliament and of the Council of 17 December 2013 on support for rural development by the European Agricultural Fund for Rural Development (EAFRD) and repealing Council Regulation (EC) No 1698/2005, Official Journal of the European Union L 347/487, 20.12.2013.

Ustav Republike Hrvatske – pročišćeni tekst, Narodne novine br. 85/10.

Živaković – Kerže, Z., Borić, M., Tokić, I.: Očuvanje identiteta u okviru europskog realiteta (Posebni osvrt na Slavoniju, Srijem i Baranju), str. 4., dostupno na: [www.unios.hr](http://www.unios.hr), 2013., pristup: 08.04.2016.



**Dr. sc. Milan Ivanović, dipl. oec.**

Panon – think tank for strategic studies - 31000 Osijek

Phone: 031/204-074

E-mail address: milanivanovi4@gmail.com

**Mr. sc. Franjo Ambroš, dipl. ing. geod.**

Geoprem d.o.o. - 31000 Osijek

Phone: 031/250-900

E-mail address: franjo.ambros@geoprem.hr

## **THE ECONOMIC IMPACTS OF BROADBAND ACCESS INVESTMENT IN CROATIA**

### **EKONOMSKI UČINCI INVESTIRANJA ŠIROKOPOJASNOG PRISTUPA U REPUBLICI HRVATSKOJ**

#### **ABSTRACT**

*The Republic of Croatia regarding the coverage of its territory and population of broadband Internet access in the bottom of the list of EU countries and should very quickly overcome this lag in order to avoid even more backward in economic and social development. The construction of the fiber optic network is financially and organizationally complex undertaking that (the monopoly) can not be financed and finish just as a private entrepreneurial investment. The paper points to the economic impact of investment in broadband through the discussion of the models of investment, the cost of building broadband networks and operating costs and return on investment in broadband networks. In order to point out the seriousness of the situation in the sector of economic development previously presents the state of the digital society of the EU framework through DESI index and indicates that the area of Slavonia and Baranja (five counties of eastern Croatian) in a significant part lags behind the average of Croatia. The goal of the research is to determine the essential elements of the investment in broadband and state of broadband access in the Republic of Croatia. At the end of the appeals to the governing bodies of regional administration and local government in the region of Slavonia and Baranja to finally begin the process of realization of the project "Slavonian network".*

**Key words:** broadband, digital economy, economic impacts of investment, investment models, return of investment

#### **SAŽETAK**

*Republika Hrvatska je glede pokrivenosti svojega teritorija i stanovništva širokopojasnim pristupom brzom Internetu na začelju liste EU zemalja i mora vrlo ubrzano prevladati ovo zaostajanje kako ne bi još više zaostala u gospodarskom i društvenom razvoju. Izgradnja svjetlovodne mreže je financijski i organizacijski složen pothvat koji se (zbog monopola) ne može financirati i završiti samo kao privatna poduzetnička investicija. U ovom radu se ukazuje na ekonomske učinke investiranja u širokopojasni pristup kroz razmatranja modela investiranja, troškove izgradnje široko-pojasne mreže te troškove eksploatacije i povrat investicije u širokopojasne mreže. Radi ukazivanja na ozbiljnost situacije u ovom sektoru gospodarskog razvoja prethodno se daje prikaz stanja digitalnog društva RH u EU okvirima kroz DESI indeks te ukazuje da je područje Slavonije i Baranje (pet županija istočne Hrvatske) u značajnom dijelu zaostaje za*

prosjekom RH. Cilj israživanja je utvrditi bitne elemente investiranja u širokopoljasni pristup te stanje širokopoljasnog pristupa u RH. Na kraju se apelira na upravna tijela regionalne uprave i lokalne samouprave na području regije Slavonija i Baranja da konačno započnu procesi realizacije projekta „Slavonska mreža“.

**Ključne riječi:** ekonomski učinci investiranja, digitalna ekonomija, modeli investiranja, povrat investicije, širokopoljasni pristup,

## 1. Introduction

This paper was originally a segment of the paper "Infrastructure and Spatial Planning and Requirement for Realization" Slavonian Network "[13] but - as the investigations continued at the said work, it turned out that it is better to get through in a special paper, so that the issues of spatial planning detailed consideration, as well as to questions of economic effects detailed processing. The economic effects of investments in broadband can not be simply indicate even describe it without pointing out the basic features of this complex and fast-growing technology. Therefore, this paper points out: the importance of development of broadband access, the state of the digital economy in Croatia and five counties of the Slavonian region, investment models in the optical network, construction costs and operating costs and the return on investment in broadband..

## 2. Development importance of broadband

Information and communication technologies (ICT) by the nature of the technological impact of generating high added value, and applied in conventional sectors of the economy enrich traditional products and services to enable the creation of higher added value in relation to the non-use of ICT. Also - applied in public services (health, education, etc.) and state administration - ICT enable better, faster, more reliable and cheaper operations. [15]

Investments in the development of broadband access are very useful for every community - as stated in a number of studies; according to the study EC [3] to increase the number of broadband users has an impact on the increase of gross domestic product (GDP), but the impact is significant if developed countries; estimates regarding the GDP growth range from 0.47% to 0.89%.

Developmental effects of the broadband infrastructure are positive and can be classified in four-axis resent the most important sectors: (a) education, (b) health and social care, (c) employment and economic development, and (d) energy and transport - which is already considered in our papers [2] [2] [6] [7] [12]. In general – there are **direct** and **indirect** impact of the communications sector in the economic growth [5]:

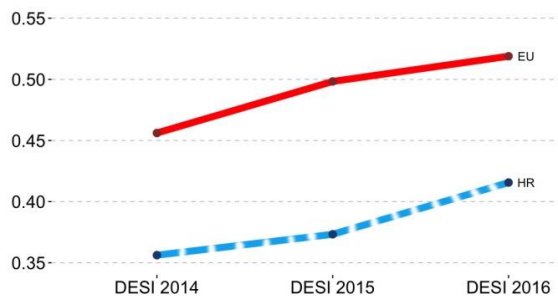
**Direct impact:** Capital investment, Production of goods and services, Employment, Overseas trade, Investment in R&D

**Indirect impact:** Enhanced speed and quality of information flows, increased business efficiency,.. Improved access to markets, Managing people and processes, Enhancing diffusion of innovation

### 2.1. The state of the digital economy in Croatia

Directorate General for Communications Networks, Content and Technology of the European Commission (DG CNECT) carried out regular annual surveys on the state of the sector and publishes the index Digital Economy and Society (DESI) in which aggregates a range of relevant indicators structured in five dimensions: a) Connectivity (broadband), b) Human capital, c) Use of the Internet, d) Integration of digital technology (in economy) and e) Digitalisation of public services. Fig 1 and 2 and Tab 1- 5 shows the relation DESA Index HR - EU28.

**Figure 1** Movement of the DESI index HR \_ EU28



Source: Digital single market  
<https://ec.europa.eu/digital-single-market/country/croatia>

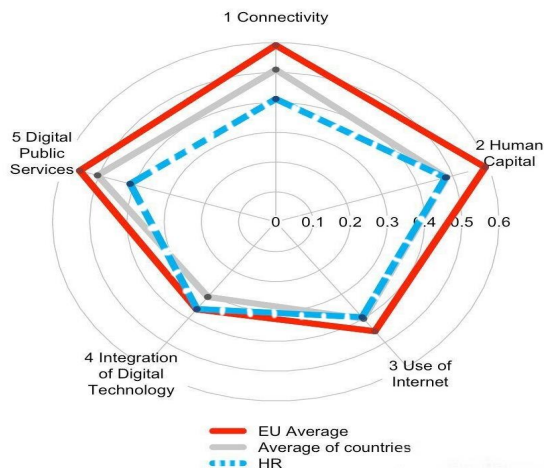
**Table 1** Connectivity

Connectivity	Croatia		EU
	rank	score	score
<b>DESI 2016</b>	<b>28</b>	<b>0.41</b>	<b>0.59</b>
DESI 2015	28	0.36	0.57

Source: Digital single market  
<https://ec.europa.eu/digital-single-market/country/croatia>

With regard to public access to broadband Croatia is in last place among the EU member states; despite the fact that the fixed broadband network is available to most households, but 30% of them does not have status of subscribers. Besides access to NGA (next generation networks) is available in 52% of households (EU average = 71%), while only 2.8% of households in the status of subscription (EU average = 30%). Croatia is facing a number of challenges regarding broadband connections. While the fixed broadband connection available to 97% of households (that is, the level of the EU average) access to NGA (high speed internet of at least 30 Mbps) is available in only 52% of households. Although 70% of households have a broadband subscription (which is a significant improvement over the 61% from the previous year) only 2.8% of fixed Internet subscribers have access to high speed - which is only 30% of the EU average, and - this is the lowest in Europe. One possible reason for the low number of subscribers may be the price of fixed broadband subscriptions in Croatia which amounts to 2.5% of average household income (EU average = 1.3%).

**Figure 2** Radial diagram of DESI Index HR\_EU



Source: Digital single market  
<https://ec.europa.eu/digital-single-market/country/croatia>

**Table 2** Human capital

Human capital	Croatia		EU
	rank	score	score
<b>DESI 2016</b>	<b>21</b>	<b>0.48</b>	<b>0.59</b>
DESI 2015	21	0.46	0.58

Source: Digital single market  
<https://ec.europa.eu/digital-single-market/country/croatia>

With a score of human capital of 0.48, Croatia ranks 21<sup>st</sup> among the EU countries; Croatia should improve digital skills of its citizens and motivate them to use it to further develop its digital economy.

**Table 3** Use of Internet

Use of Internet	Croatia		EU
	rank	score	score
<b>DESI 2016</b>	<b>23</b>	<b>0.39</b>	<b>0.45</b>
DESI 2015	27	0.32	0.43

Source: Digital single market  
<https://ec.europa.eu/digital-single-market/country/croatia>

According to the tendency of individuals to use the Internet RH has a rating of 0.39 and ranks 23rd among the EU countries; Last year, Croatia was the 27 position. Croats mostly use the Internet to read news, and less for business transactions and official communications. Internet users in Croatia participate in a wide range of online activities; read the news (89%), communicate voice and video (42%) or through social networks (64%) as all of this activity, the largest representation in the EU. But because the Internet less used for business transactions than in other EU countries; for example,

only 44% of Internet users buying online (EU average = 65%). But in Croatia use Internet banking is increasing by 19% compared to the previous year.

**Table 4** *Integration of Digital Technology*

Integration of Digital Technology	Croatia		EU
	rank	score	score
<b>DESI 2016</b>	<b>16</b>	<b>0.36</b>	<b>0.36</b>
DESI 2015	9	0.39	0.33

*Source: Digital single market  
<https://ec.europa.eu/digital-single-market/country/croatia>*

With regard to the integration of digital technology in business Croatia has scores of 0.36 and occupies 16th place among the EU member states (9<sup>th</sup> in 2015). Companies in Croatia are ready to sell online; percentage of HR companies use business software will 4.7%, e-account of 10%, services 15% in the cloud and social media 15% - and this is the level or higher than the EU average. Croatian companies want to take advantage of the opportunities offered by the online store; almost 20% of SMEs in Croatia sold online which is above the EU average (16%), while 8.9% are traded online with other members of the EU (EU average = 7.5%). However traffic Online sales is significantly reduced compared to the previous year.

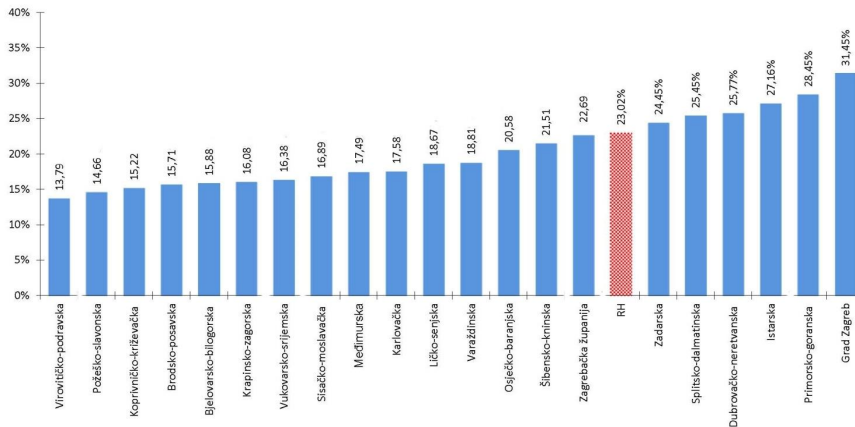
**Table 5** *Digital Public Services*

Digital Public Services	Croatia		EU
	rank	score	score
<b>DESI 2016</b>	<b>23</b>	<b>0.41</b>	<b>0.55</b>
DESI 2015	27	0.29	0.54

*Source: Digital single market  
<https://ec.europa.eu/digital-single-market/country/croatia>*

In the sector of digital public services Croatia has a rating of 0.41 and is ranked 23<sup>rd</sup> among the Member States; Croatia has improved its position in the rankings compared to 2015 and the development of online public services is progressing; This could be partly because of e-citizens (Internet portal, which was introduced in 2014), a module E-commerce has only recently been introduced and still supplementing. [15]

**Figure 3** The density of broadband connections per counties - stationary communications network (2015)



Source: HAKOM – Gustoća širokopoljasnih priključaka po županijama RH

[https://www.hakom.hr/UserDocsImages/2016/e\\_trziste/KVA%20HRV%20Q4%202015%20Gusto%C4%87a%20prijlju%C4%8Daka%20po%20%C5%BEupanijama.pdf](https://www.hakom.hr/UserDocsImages/2016/e_trziste/KVA%20HRV%20Q4%202015%20Gusto%C4%87a%20prijlju%C4%8Daka%20po%20%C5%BEupanijama.pdf)

In our previous work, we pointed out that the region of Slavonia and Baranja (five counties of eastern Croatian) in substantial part lags behind the average RH. [1] [2] [6] [7] [9] [10] Fig 4 and 5 show the state in the number and density of connections to broadband by counties in the fourth quarter of 2015. On the list of 21 counties in the number of broadband connections in fixed communications network Požega County is the 20 position, Virovitička to 19, Brodska 12, Vukovar 10 and Osijek on 5 position. According to density of connections (number of users according to population) of all five Slavonian counties is below of the Croatian average; Virovitica County is the 21 position, Požega 20.; Brod 18.; Vukovar 15 and Osijek County on 9<sup>th</sup> place (Fig. 3)

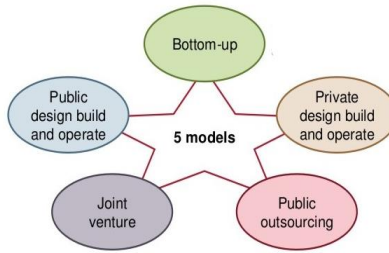
### 3. Investments in broadband

Due to said specifics - a fast-growing complexity of technology, the question of monopoly and exploitation networks, different ways of using this wide range of users - investments in broadband are very complex and for each investment project must be investigated a number of details to determine the return on investment. The most important are: investment models in optical networks, broadband network construction costs, Operating costs and return on investment and prices on broadband networks and economic regulation.

#### 3. 1. Investment models in optical networks

The construction and exploitation of broadband networks are complex and fast-growing technology and need to point out the specifics of investing in this sector, because it is an infrastructure, which by their nature can not be the monopoly of private entrepreneurs. So there are different models that have defined the relationship of stakeholders investment (public bodies and private companies) in the responsibility for the construction and management of the network and acquisition and retention of ownership built in infrastructure. On these models in more detail in [7] [8] [9]

**Figure 4** Investment models in optical networks



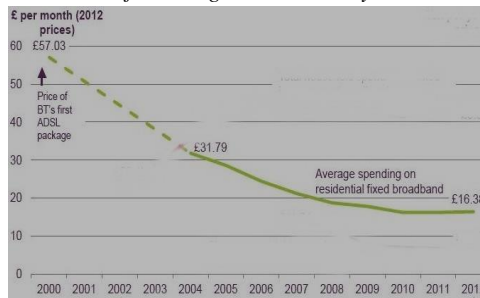
Source: Ofcom (2014.): *Cost and value of communications services in the UK*; Ofcom, 2014

**3.2. The cost of building broadband network**

The share of earthworks in the cost of utility infrastructure (water supply, sewerage, public lighting, heating) and public infrastructure (electricity networks underground, pipeline) is in the range 20-60% of the total investment, depending on the category of the terrain. The share of earthworks in the construction costs of the optical infrastructure is around 70%. This fact suggests that an integrated approach can achieve a significant reduction of investment costs in the construction of telecommunications infrastructure. About this in more detail in our papers [2] [3] [7] [9]

Due to the density of connections there are three zones: **1** = highest density; large conurbations, **2** = lower density; smaller cities, and **3** = sparsely populated area; villages. According to this criterion are divided and fixed costs per connection. The example of the UK - Fig 6 - (and similarly in other EU countries) 67% of connections to broad-band has a unit (lowest) cost of construction. Two times more expensive to build a port in the second zone (that is next 23% of total connections) and third area cost of building connection is three times higher than in the first zone for connection; For more details see [10].

**Figure 5** Price of building connections by zones in the UK



$$67\% = x \quad 23\% = 2x \quad 10\% = 3x$$

Source: Ofcom (2010.): *Super-fast broadband - Context and summary for Ofcom's consultations on the wholesale local access and wholesale broadband access markets*; Ofcom, 2010

**3.3. Exploitation costs and return on investment in broadband network**

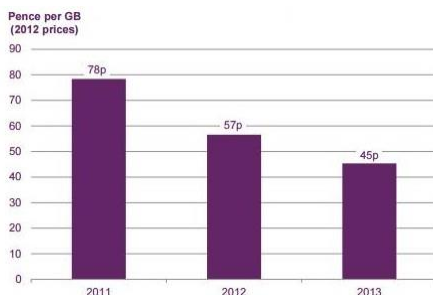
Costs of broadband networks exploitation and profit - which is realized return on investment - depend on a number of criteria: the number and density of connections, type and scope of services use so that in the economic and technology segment, there are different models. In large urban agglomerations (where the density of connections large and there is a high consumption of different services based on broadband) return on investment of 2-4 years. In small towns (less density and

volume of consumption) payback period is around 8 years, and in the sparsely populated areas of the invested funds are returned for 20 years. On these models in more detail in the paper: [3] [8] [9]

### 3.4. The price of using broadband networks and economic regulation

The development of new technologies in communications sector and increase number of connections and the use of broadband networks prices for endusers has been constantly declining. Fig 6 shows trends in the cost of using broadband connection by household in the UK; running costs by 1 household (2012 prices) from £ 57.03 (in 2000) fell to £ 16.38 (in 2012). Fig 7 shows the drop in price for transfer 1GB data in the period 2011- 2013.

**Figure 6** The cost of using broadband networks in G.Britain per connection



Source: Ofcom (2014.): Cost and value of communications services in the UK; Ofcom, 2014

**Figure 7** The cost of transfer 1GB data in the UK Broadband



Source: Ofcom (2014.): Cost and value of communications services in the UK; Ofcom,

But here it must be emphasized that the state with their projects and by control of business conditions and investment helped development of broadband access in rural areas - to lower the cost of building and connecting and for population balanced the costs of use.

Economic regulation is an essential element in the development of broadband networks, and in the UK with a focus on the impact that regulation can have on investment incentives for NGA, and relationship between competition and investment. The controller in the UK started from the premise that in a competitive market the most effective drivers of development: innovation, investment and consumer welfare. In this context, they realized regulatory intervention to support the development of investment and consumption growth. Thus, the average price of broadband packages in the period 2004 - 2012 decreased by 48%, and the baskets of basic services for households (basic broadband connection, two basic mobile package, basic package of cable and broadcast license) costs £ 46 per month, or 1.7% average household income. [12]



### 3.5. Assessment of the economic effects of investment in broadband

The economic effects of investments in broadband are versatile, but it is essential to have a very significant impact on the social and economic development of communities and ultimately the construction and use of broadband contributes to the increase of GDP.

In a study [3] for the the EC lists the four indicators that are directly connected with the creation of the benefits of broadband; (a) average income, (b) number of computer users, (c) number of smartphone users and (d) network coverage. It may be noted that roughly 10% increase in the number of broadband users with an average increase in GDP of 1.38%, which reflected an increase in number of jobs in development and maintenance of the networks, and growth of economic activity due to the increased use of electronic services available through broadband access. [4] According to the research International Telecommunication Union (ITU), company that used broadband in the EU have improved - in the first decade of the XXI. century - labor productivity on average by 5% in the manufacturing industry, and 10% in the service sector [5].

At national level economic effects of broadband investments contribute to society in 4 main sectors:

- a) Efficient functioning of public administration and public services,
- b) Better business results of economic entities,
- c) Better quality and a higher standard of living, and
- d) Development of new businesses based on broadband access.

### 4. Conclusion

Our consideration of the economic impact of investment in broadband access in the Republic of Croatia has indicated:

- The broadband infrastructure is very important condition for overall development of a country (economy, public administration, social services and living standards of the population);
- There are a number of technological and economic specificities of the broadband sector which has to be respected and for each investment should be specifically examined;
- The Republic of Croatia in the digitization of society (use of broadband services) is in the bottom of the EU countries;
- All five slavonian counties according to the density of broadband connections in fixed network are below the average Croatian and three counties at the bottom in list of 21 counties;
- The development of broadband services is also an opportunity for economic and technological development of local firms and new local jobs.
- These authors 3 years ago in papers point out on very unfavorable state of broadband infrastructure and Internet literacy and insufficient use of broadband services in the public service and administration in the area of Slavonia and Baranja.

With that title - we repeat the conclusions and proposal of our work [7] from 2014: "For the administrative bodies of the regional administration and local government in Slavonia and Baranja:

- a) Urgent implementation of the preparatory phase of the project "Slavonian network"
- b) Launching education of those responsible officials and authorities JLS Project "Slavonian network"
- c) Starting procedure for a complex application Cadastre (infrastructure) lines.
- d) Initiation procedure for the preparation of a master plan of the project "Slavonian network".

With that title repeat the conclusions of our work [7] from 2014: "The administrative bodies of the regional administration and local government in the region of Slavonia and Baranja are proposed:

- a) Urgent implementation of the preparatory phase of the project "Slavonian network"
- b) Launching education of those responsible officials and authorities JLS Project "Slavonian network"
- c) Starting procedure for a complex application Cadastre (infrastructure) lines.
- d) Initiation procedure for the preparation of a master plan of the project "Slavonian net-work".

## REFERENCES

- [1] Ambroš, F.; Mesarić, D.; Antunović, M.; Ivanović, M. (2013.): Razvoj i održavanje širokopolasne mreže nove generacije u Slavoniji i Baranji; 22.<sup>nd</sup> Scientific Meeting OTO '2013. Osijek, Faculty of Electrical Engineering, 26. April, Proceedings, pp 77-86
- [2] Ambroš, F.; Ivanović, M.; Mesarić, D. (2013.): Izgradnja komunalne infrastrukture i razvoj optičke mreže na području Slavonije i Baranje; 4<sup>th</sup> International Conference "PLIN '2013"; Osijek, 26. - 28. September; Proceedings, pp 1-10
- [3] Analysis Mason (2011.): Guide to broadband investment, *Final report*, [http://ec.europa.eu/information\\_society/newsroom/cf/itemdetail.cfm?item\\_id=7630](http://ec.europa.eu/information_society/newsroom/cf/itemdetail.cfm?item_id=7630)
- [4] Fornefeld, M.; Delaunay, G.; Elixmann, D. (2008): The Impact of Broadband on Growth and Productivity, MICUS Consulting GmbH, Düsseldorf, Germany [breitbandinitiative.de/wp/wp.../2008\\_micus-studie-broadbandeu\\_long.pdf](http://breitbandinitiative.de/wp/wp.../2008_micus-studie-broadbandeu_long.pdf)
- [5] Frontier Economics (2010): The impact of broadband in Eastern and Southeast Europe, [cdn1.telekomaustria.com/.../broadband-study.pdf](http://cdn1.telekomaustria.com/.../broadband-study.pdf)
- [6] Ivanović, M.; Ambroš, L.; Mesarić, V. (2014.) Establishing A Consortium - Way For Successful Implementation Of Investments Projects; 3<sup>rd</sup> International scientific conference „Economy of Easter Croatia“, Osijek, May, 23-24, 2014; Proceedings, pp 16 – 22
- [7] Ivanović, M.; Ambroš, A.; Mesarić, D. (2014.) - Models of investment in optic network and implementation of the "Slavonia network" ; 3<sup>rd</sup> International scientific conference „Economy of Easter Croatia“, Osijek, May, 23-25, 2014; Proceedings, pp 4 - 16
- [8] Medved, J.; Tumor, P.; Ivanović, M. (2014.): Važnost amortizacije infrastrukturnih instalacija - prilozi strukturiranju projekta „Slavonska mreža“; 23<sup>rd</sup> Scientific Meeting - OTO '2014; Požega, 24.- 25. April; 9, Faculty of Electrical engineering, Proceedings, pp 117-126
- [9] Mesarić, D.; Ambroš, F.; Ivanović, M (2013.): Development of broadband network in Slavonia and Baranja, 2<sup>nd</sup> International scientific conference „Economy of Easter Croatia“, Osijek, May, 23-25, 2013; Proceedings, pp 54-64
- [10] Mesarić, D.; Ambroš, F.; Ivanović, M. (2013.): „Slavonska mreža“ - razvoj mreže širokopolasnog pristupa Internetu na području pet županija regije Slavonija i Baranja - Idejni projekt – Ministarstvo regionalnog razvoja i EU fondova, Elektrotehnički fakultet Osijek
- [11] Ofcom (2010.): Super-fast broadband - Context and summary for Ofcom's consultations on the wholesale local access and wholesale broadband access markets; Ofcom, 2010 <http://stakeholders.ofcom.org.uk/binaries/consultations/wla/annexes/context.pdf>
- [12] Ofcom (2014.): Cost and value of communications services in the UK; Ofcom, 2014 [http://stakeholders.ofcom.org.uk/binaries/research/consumer-experience/tce-13/cost\\_value\\_final.pdf](http://stakeholders.ofcom.org.uk/binaries/research/consumer-experience/tce-13/cost_value_final.pdf)
- [13] Suljić, A.; Ambroš, F.; Drašković, V. (2016.): Infrastructure in a Spatial Planning Requirement for Realization "Slavonian Network"; 5<sup>th</sup> International scientific conference „Economy of Easter Croatia“, Osijek, May, 26-28, 2016;
- [14] WIK-Consult (2008.): The Economics of Next Generation Access – *Final Report*, [http://wik.org/uploads/media/ECTA\\_NGA\\_masterfile\\_2008\\_09\\_15\\_V1.pdf](http://wik.org/uploads/media/ECTA_NGA_masterfile_2008_09_15_V1.pdf)

[15] \* \* \* (2016.) Digital single market  
<https://ec.europa.eu/digital-single-market/country/croatia>

[16] \* \* \* (2016.) HAKOM – Gustoća širokopojasnih priključaka po županijama RH  
[https://www.hakom.hr/UserDocsImages/2016/e\\_trziste/KVA%20HRV%20Q4%202015%20Gusto%C4%87a%20priklju%C4%8Daka%20po%20%C5%BEupanijama.pdf](https://www.hakom.hr/UserDocsImages/2016/e_trziste/KVA%20HRV%20Q4%202015%20Gusto%C4%87a%20priklju%C4%8Daka%20po%20%C5%BEupanijama.pdf)

**Izv.prof.dr.sc. Aleksandra Krajnović**  
Department of Economics, University of Zadar  
Splitska 1, HR - 23000 Zadar, Croatia  
Tel. +385 23 400 402; e-mail: akrajnov@unizd.hr

**doc.dr.sc. Ivica Zdrilić**  
Department of Economics, University of Zadar  
Splitska 1, HR - 23000 Zadar, Croatia  
Tel. +385 23 400 410; e-mail: izdrilic@unizd.hr

**dr.sc. Milan Puvača**  
Ofir Ltd.  
Ramska 20, HR - 31000 Osijek, Croatia  
Tel: +385 31 273 236; e-mail: milan@ofir.hr

## **COMPARATIVE ANALYSIS OF LARGE SLAVONIAN COMPANIES' COMPETITIVENESS IN RELATION TO THE REST OF CROATIA AND REGION**

### **KOMPARATIVNA ANALIZA KONKURENTNOSTI VELIKIH SLAVONSKIH PODUZEĆA U ODNOSU NA OSTATAK HRVATSKE I REGIJU**

#### **ABSTRACT**

*Relatively expressed business and research direction towards micro and small companies is able to remove focus from bigger companies which are capable to impact on state or region's macroeconomic picture stability. Modern management principles, performance measurement or information communication technology implementation are applicable on all systems no matter on their size but with proportional process complexity. The legacy of past in the Balkan Peninsula area significantly affects large companies' perception as sluggish and inactive systems that are actually slowing down the economy. Once we consider challenges which are especially noticeable on our micro level environment, businesses which are struggling with current crisis are in even deeper problems.*

*In the previous time period, especially the media, it is often to see phrase that eastern Croatia lags behind the rest of the Croatian economy. To determine feasibility and justification of these statements, authors conducted a study on 106 large enterprises in Croatia, which are employing more than 250 employees. Using the results of the surveys and interviews together with putting geographical location variable in analysis, research is focused on financial and non-financial parameters examination in surveyed companies. The above starting point aims to determine Slavonian large companies position in comparison to companies located in other parts of our country. Authors have set the research hypothesis and the results are expected to confirm it.*

*On this study foundations, authors will gain a basis for analyzing the disadvantages of the Slavonia's companies in relation to the rest of Croatia, as well as their strengths, which will enable the creation of new visions and transformation recommendations in order to connect with global trends in today's ever changing global market.*

**Keywords:** *business success, performance measurement, enterprise ICT, big Croatian companies, eastern Croatia business challenges.*

## SAŽETAK

*Relativno velika usmjerenost trendova poslovanja, ali i istraživanja, ka malim i mikro subjektima često sa fokusa izbacuje velika poduzeća koja svojom snagom uvelike mogu utjecati na stabilnost makroekonomske slike države ili pak određene regije. Principi modernog menadžmenta, mjerenja performansi ili pak implementacije informacijsko komunikacijske tehnologije primjenjivi su na sve sustave bez obzira na veličinu uz ipak proporcionalnu razinu kompleksnosti takvih procesa. Ostavština prošlosti na prostorima Balkanskog poluotoka znatno utječe na percepciju velikih kompanija kao tromih i neaktivnih sustava koji zapravo usporavaju gospodarstvo. Kada u obzir uzmemo izazove koji su posebno izraženi na našem mikro-okruženju ionako krizom obuhvaćena ekonomija biva u još izraženijim problemima.*

*U prethodnom razdoblju često je, posebno medijski, uočljiva sintagma kako istočna Hrvatska zaostaje za ostatkom gospodarstva Republike Hrvatske. Za utvrđivanje opravdanosti ili neopravdanosti navedene tvrdnje autori su proveli istraživanje na 106 velikih poduzeća u Hrvatskoj koja zapošljavaju više od 250 zaposlenika. Koristeći rezultate anketa te intervjua i stavljajući varijablu geografskog položaja u analizu, istraživanje je usmjereno na ispitivanje financijskih i nefinancijskih parametara istraživanih poduzeća. Navedeno za cilj ima utvrditi položaj Slavonkih velikih poduzeća u odnosu na tvrtke smještene u ostalim dijelovima naše zemlje. S tim u svezi postavljena su istraživačka hipoteza, a očekuju se rezultati koji će ih potvrditi.*

*Temeljem provedenog istraživanja autori će dobiti podlogu za analiziranje loših strana poduzeća Slavonije u odnosu na ostatak Hrvatske, kao i njihovih prednosti, što će omogućiti stvaranje novih vizija i preporuka u funkciji preobrazbe i umrežavanja sa svjetskim trendovima na turbulentnom globalnom tržištu.*

**Ključne riječi:** *uspješnost poslovanja, mjerenje performansi, IKT u velikim poduzećima, velika hrvatska poduzeća, izazovi poslovanja istočne Hrvatske.*

### 1. Introduction

Performance management allows company to manage through desired "results and outcomes" determination and measure their achievement. Measurement management allows implementation of strategic intent, mission, vision, strategy or long-term business goals into tasks and indicators that can be measured and evaluated.

Most often, the company's business is presented via financial indicators that are visible from financial statements (such as ROA, ROE, ROI, EVA, MVA), but today more and more influence is gathered also from non-financial business aspects (VBM, TQM, BSC, ABC, KPI and others). Financial and non-financial aspects have the main task to balance profit, growth, control, short term operating results, opportunities and threats and finally, to motivate human resources (Vrdoljak Raguz, 2009, p. 107).

The purpose of this paper is to conduct a study on large Croatian companies, in a manner that in addition to financial performance measures, non-financial indicators are included as well. From there it is possible to gain more objective picture of large Croatian companies, but also their mutual comparison.

The main goal of the research is to determine whether there is a difference between large Croatian companies which are doing business in Slavonia and those which operate in the rest of the country and if there is what are most important one. Research hypotheses are set in order to do so.

Basic arising question is how to determine it?

Paper is partly based on research conducted in one of the authors PhD (Zdrilić, 2013) thesis and continued analysis after it.

## **2. Theoretical elaboration of the problem**

Revolution in measuring organizational effectiveness and its performance started to happen with "balanced" or "multidimensional" performance measurement system development in the late 1980s and early 1990s, as a result of general dissatisfaction among theoreticians and practitioners with traditional, past-oriented and accounting systems based business efficiency measuring (Bourges, 2000, p. 754).

In time period from 1994 to 1996, there has been published more than 3600 articles related to various organizational performance measurements and just in the United States during 1996 every 15 days there was new book on this subject (Nelly, 1999, p. 207).

"*What gets measured gets published*" is one of the most famous aphorisms related to performance measurement (Behn, 2003, p. 599).

Today it is considered that 75% of the company's value cannot be measured by standard accounting techniques (Niven, 2007, p. 27). Therefore, it is impossible that in twenty-first century we rely solely on financial performance measures.

For the most top management positions, although the financial performance is inevitably main report, there was a significant recognition that other effective management important factors cannot only be found in the financial statements (Neely, 2004, p. 3). There are many criticisms aimed at exclusive usage of financial measures (Niven, 2007, p. 21):

- *Those aren't harmonized with today's business reality.*
- *Those are the same as driving by looking at rear mirror.*
- *Usually are giving strength to functional separation.*
- *Long term thinking is sacrificed.*
- *Financial measures aren't relevant to many organizational levels.*

Giving these limitations, it becomes unquestionable that there's importance of finding ways which will enable organization measurement and performance assess. Those should allow that financial results will be just one part of measuring success methodology and that intangible assets measurement processes in broad sense will be identified.

Measuring organization or processes success shows whether what has been done is well or not, gives an idea of whether it is necessary to take some action or not, and shows the guidelines which actions should be taken (Wealleanus, 2001, p. 3). These claims have special significance given that the business performance impacts on managers and employees behavior in organization (Lin, 2007, p. 1069).

Presented research is conducted by taking care of financial and non-financial results.

### 3. Research methodology

The basic set was identified as large companies, excluding financial institutions<sup>1</sup> (banks, insurance companies, investment and retirement funds ...), and public and local utility companies<sup>2</sup>, under condition that on their main market there is a certain kind of competitive struggle, whether based on home competition or imported products.

Although the accepted criterion for categorisation of companies according to their size is multidimensional in nature, within this research a simplified, i.e. one-dimensional criterion for defining the basic set was used, which is – minimum average number of 250 employees in the year when the research was carried out.<sup>3</sup> This kind of methodological approach is justified by the purpose and objectives of the research and the practice so far of having one-dimensional differentiation between companies according to their size in similar research.

However, it should be taken into account that the research was finished in 2012, when the authors had financial and other data on large companies for the year 2011, and basic data on the population of large companies used were data of the Croatian Chamber of Economy for the year 2011. Since a 'large company registered as an independent legal entity' was used as a basic unit of the research process, the application of the described division criteria resulted in the basic set consisting of 318 companies (joint stock companies and limited liability companies). The basic set thus defined can be encompassed with available instruments for data gathering in a relatively simple manner, resulting in the decision that the entire selected population (basic set) was included in the research, that is, all 318 companies.

Research has been conducted in couple of phases. During the year of 2012. basic set is defined together with financial data for that year. During that same year, full structured survey has been sent and all responses have been collected. By the end of 2015. and within the start of 2016. all financial data for year 2014. have been collected which enabled an opportunity to analyse what happened with companies during 2011.-2014.

#### 3.1. Questionnaire

The key instrument for data gathering within this research was a questionnaire that was sent to general managers and chairmen of the Board of Directors of all companies constituting the basic set.

To facilitate completion of a relatively long questionnaire, questions were mostly of the closed-ended type. Such questions with an offered list of answers were mostly used to establish objective facts, whereas closed-ended questions with intensity scales were used to determine the attitudes of managers. Here a discrete Likert scale was used with five levels of intensity, which is also theoretically considered to be the best solution in devising questionnaires (Zelenika, 1998, p. 371).

The survey was conducted through email and Internet. For this purpose, the infrastructure of SRCE (University Computing Centre of the University of Zagreb) was used (Figure 3). SRCE offers to its

---

<sup>1</sup> Namely, the logic of achieving competitive advantage in the business of financial institutions is considered to be sufficiently specific, so that non-critical implementation of accepted methodology could lead to (potentially) wrong conclusions.

<sup>2</sup> Utility companies (that is, companies in charge of maintaining city areas, water, electricity and gas supply, public transport in the city and similar activities) are excluded from the population as these are organizations with a specific objective – to meet the needs of the community, and not to maximize profit or other type of economic benefits.

<sup>3</sup> Owing to this, the research group includes, in addition to large companies with over 250 employees, medium-sized companies with more than 250 employees (companies do not comply with one of the remaining two criteria for determining the company size), that could potentially become large in the year of the research, from the statistical point of view.

users a new service based on the open source tool LimeSurvey<sup>4</sup> used for the development of questionnaires.

During the research 106 completed questionnaires were returned, which accounts for 33.3% of the total set. The return rate was significantly higher than in some European and Croatian studies, which indicated that, according to the obtained results, relevant conclusions could be made about the set hypotheses.

The gathered data were processed on a PC by means of Microsoft Excel 2010 software and statistical analysis software IBM SPSS Statistics for Windows (v.23), where certain (available) financial data were added for the researched companies and research results were further processed.

## **4. Research results**

### **4.1. Research hypothesis**

After theoretical position analysis and research preparation, the following main research hypotheses was set:

**H: Slavonian large enterprises are not less competitive in the market in comparison to other big companies in Croatia.**

Main research hypothesis was divided to four additional / supporting hypothesis:

- *SH1: Large enterprises in Slavonia are equal in ICT usage in comparison to the other same sized companies in Croatia.*
- *SH1: There's no significant differences during planning and management between large enterprises in the rest of the Croatia and Slavonia.*
- *SH3: No significant differences are noted when implementing organizational changes and organizational culture between compared enterprises.*
- *SH4: Large enterprises in Slavonia are equal in financial results in comparison to other huge enterprises in Croatia.*

Research model was created, based on the questionnaire results and available financial operations data of each surveyed company.

The research model is created by taking the experience of the Business Excellence Model. As the above models are self-assessment based (Lazibat, 2009, p. 426), four groups were created which also represent auxiliary / supporting hypotheses of this paper.

All gathered answers in the questionnaire, as well as all available financial results were grouped and evaluated by points. On that basis, research groups were formed and results presented within individual group.

By using the number of companies in the basic group and obtained sample, it has been concluded that representative return has been reached, and that it is a base for quality findings. (Table 1).

---

<sup>4</sup> More information at [www.limesurvey.org/](http://www.limesurvey.org/)



**Table 1** Population and sample distribution

Region	Population	Sample	%
Slavonia	48	14	29,2%
Croatia without Slavonia	270	92	34,1%
<b>Total</b>	<b>318</b>	<b>106</b>	<b>33,3%</b>

Source: Research results (N=106)

Following table shows population and sample distribution in detail and additionally confirms that sample can be considered as representative.

**Table 2** Detailed population and sample distribution

Nr. of employee	Slavonia		Rest of the Croatia		Sample		Population	
	Frekv.	%	Frekv.	%	Frekv.	%	Frekv.	%
251-500	9	64,3%	47	51,1%	56	52,8%	180	56,60%
501-1.000	3	21,4%	23	25,0%	26	24,5%	81	25,50%
1.001-2.000	1	7,1%	14	15,2%	15	14,2%	38	11,90%
2.001-5.000	1	7,1%	5	5,4%	6	5,7%	15	4,70%
5.001-10.000	0	0,0%	2	2,2%	2	1,9%	2	0,60%
> 10.000	0	0,0%	1	1,1%	1	0,9%	2	0,60%
<b>Total</b>	<b>14</b>	<b>100,00%</b>	<b>92</b>	<b>100,00%</b>	<b>106</b>	<b>100,00%</b>	<b>318</b>	<b>100,00%</b>

Source: Research results (N=106)

#### 4.1.1. Information and communication technology

Regardless of the management level, information is main rational resource handling assumption. Data becomes information if it gets some sense and as such is useful for planning, decision making, control, operational and / or learning processes. (Ziegenbein, 2008, p. 163). Business processes are impossible to manage and control if there is no quality, timely and actual information (Žager, 2008, str. 370). Perfect joint action of enterprise management and IT usage makes a difference on company's market and competitive advantage. This requires continuous improvement of ICT infrastructure within and across organizational levels, determination, design and modeling of information origin, forms processing and displaying relevant information in accordance with the needs as well as their treatment, intervention and coordination (Ziegenbein, 2008, p. 169).

**Table 3** ICT usage

Category	Max. Points	Slavonia		Rest	
		Points	%	Points	%
1. Information and communication technology	20	8,4	42,0%	6,7	33,5%

Source: Research results (N=106)

The research results presented in Table 3. are showing that companies from Slavonia achieve better operating results in the category of ICT usage in relation to the rest of Croatia. From there we can confirm first supporting research hypothesis.

#### 4.1.2. Planning and management

In all scientific books and articles which are dealing with business excellence and total quality management, importance of leadership is often emphasized. Some authors, such as Kanji (2002) are going so far to argue that the leadership is basis for achieving business excellence.

**Table 4** Research results for planning and management category

Category	Max. Points	Slavonia		Rest	
		Points	%	Points	%
2. Planning and management	60	28,3	47,2%	24,6	41,0%

Source: Research results (N=106)

Analyzed survey results are showing that in this category Slavonian companies achieve better results than the rest of Croatia, from where second supporting hypothesis is confirmed. Within the category companies in Slavonia achieved slightly less results within subgroups related to the organization analysis and the methodologies used, while in total as shown in Table 4., those gathered better results.

#### 4.1.3. Organizational changes and culture

Fast and quality organizational changes are necessary for any business success and should be supported by appropriate organizational culture which is consisted (Skoko, 2000, p. 100) of core values and beliefs accepted by all members.

**Table 5** Research results for organizational change and culture

Category	Max. Points	Slavonia		Rest	
		Points	%	Points	%
3. Organization. changes and culture	20	12,4	62,0%	10,6	53,0%
<b>Total</b>	<b>100</b>	<b>49,1</b>	<b>49,1%</b>	<b>41,9</b>	<b>41,9%</b>

Source: Research results (N=106)

Results presented in Table 5. are showing that companies in Slavonia do not lag behind the rest of the companies from the Croatia. Just the opposite, those generate even better results, confirming the third supporting research hypothesis.

#### 4.1.4. Financial results

In order to simplify and make financial results presentation clearer, all companies were set up in five credit (financial) groups rating from A to E, where A is the best and E the worst business financial assessment<sup>5</sup>. Financial indicators choice is limited to five representatives, that are widely used in business and professional community. Indicators are divided into two groups - liquidity ratios and performance.

**Table 6** Financial result comparison in years 2011. and 2014.

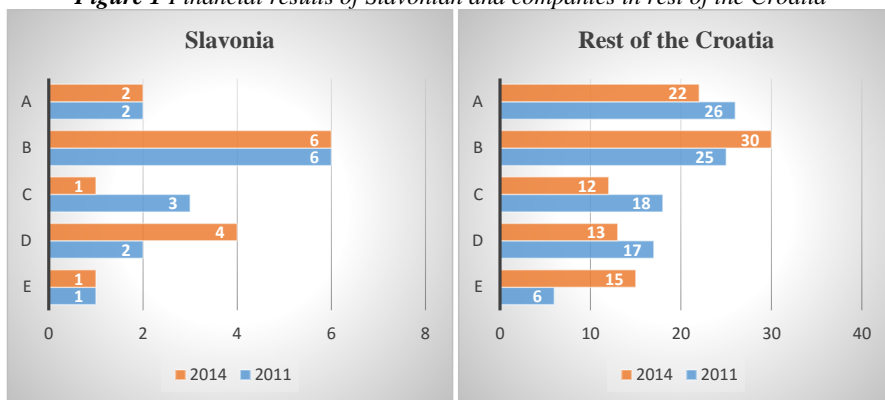
Financial results	Max. Points	Slavonia		Rest	
		Points	%	Points	%
2011.	100	51,9	51,9%	55,6	55,6%
2014.	100	49,5	49,5%	51,2	51,2%

Source: Research results (N=106)

<sup>5</sup> Methodology details: [http://www.poslovna.hr/docs/Metodologija\\_HR.pdf](http://www.poslovna.hr/docs/Metodologija_HR.pdf) (accessed on 01.04.2016.)

What makes research somewhat different from the above is that here, financial results of the questioned companies were observed prior to the questionnaire (2011), and then once again analyzed after the questionnaire (2014). Objective picture has been set by using this simple iterative method. Results presented in Table 6, are used to conclude that companies from Slavonia have slightly worse operating results compared to the rest of the Croatia in year 2011. What makes it more interesting is the fact that numbers are very similar in second reference period (year 2014.). It is noticeable that difference from the first period is gradually reduced in favor of companies from Slavonia, which is further demonstrated by Figure 1.

**Figure 1** Financial results of Slavonian and companies in rest of the Croatia



Source: Research results (N=106)

It is important to emphasize that all observed companies achieved worse financial results in second reporting period (three years later), which is cause for concern for Croatia in general. Additional note is that decline is less visible within Slavonian companies. Research shows that fourth supporting hypothesis cannot be accepted, but also cannot be rejected with great significance.

## 5. Conclusion

First auxiliary hypothesis which was related to Slavonian companies not lagging in relation to other companies in Croatia when talking about IT technology is accepted. Not only that hypothesis was confirmed, but it is determined that companies in Slavonia achieve better results compared to the rest of the Croatia when it comes to information and communication technology usage or information analysis. Further research also confirms SH2 which states that there is no significant difference in the planning and management of a large company in the region of Slavonia and those in the rest of Croatia. Even more, Slavonian companies made bit better result here. Notwithstanding the above, detailed study found that when it comes to organization itself and used methodology in planning, those companies are slightly worse than other in Croatia. SH3 is also confirmed which shows that there is no significant difference in organizational change implementation as well as organizational culture between researched companies. However, in last auxiliary hypotheses which was related to business financial results lagging among examined companies it was visible that enterprises from Slavonia are little behind others. Specialty here is that during observed time period gap decreased. General negative fact is that all studied companies in average worsened their financial results.

Finally, it can be concluded that large companies from Slavonia aren't lagging behind same sized companies from the rest of Croatia. On the contrary, during treated period between 2011 and 2014, as many as 13 companies from the rest of the Croatian went bankrupt or went out or merged with another entity (almost 15%), while at the same time in Slavonia that was the case with only one

company (7%). Once again this confirms that companies in Slavonia aren't behind the rest of Croatia, but also states the fact that such companies aren't numerous there. Future focus should be in setting preconditions for medium-sized businesses improvement to large scaled ones and by doing so try to re-run the economy and growth of eastern part of the Croatia. Recommendation and plan for further study refers to the research and detection of industries and enterprises in Slavonia which are able to create basis for their growth, development and expansion as well as encouragement for their development in this direction. This would allow long-term region growth, new jobs creation and maybe more importantly stopping any further emigrations or brain drain, especially among young people.

## REFERENCES

- Behn, R. (2003). Why measure performance? Different purposes require different measures. *Public Administration Review*, 63(5), 586-606.
- Bourge, M. M. (2000). Designing, implementing and updating performance measurement systems. *Internacional Journal of Operations & Production Management*, 20(7), 754-771.
- Kanji, G. K. (2002). *Measuring Business Excellence*. London and New York: Routledge.
- Lazibat, T. (2009). *Upravljanje kvalitetom*. Zagreb: Znanstvena knjiga d.o.o.
- Lin, C. K. (2007). The mediate effect of learning and knowledge on organizational performance. *International Journal of Management*, 107, str. 1066-1083.
- Neely, A. (Ur.). (2004). *Business Performance Measurement: Theory and Practise*. Cambridge (UK): Cambridge University Press.
- Nelly, A. (1999). The performance measurement revolution: why now and what next? *Internacional Journal of Operations & Production Management*, 19(2), 205-228.
- Niven, R. (2007). *Balanced scorecard - korak po korak*. Zagreb: Poslovni dnevnik i Masmedia.
- Sikavica, P., & Novak, M. (1999). *Poslovna organizacija*. Zagreb: Informator.
- Skoko, H. (2000). *Upravljanje kvalitetom*. Zagreb: Sinergija.
- Vrdoljak Raguž, I. (2009). Specifičnosti metodoloških pristupa mjerenju uspješnosti poslovanja kvalitativnim pokazateljima. *Poslovna izvrsnost*, 4(2), 107-118
- Wealleanus, D. (2001). *The organizational measurement manual*. Hampshire: Gower Publishing Ltd.
- Zdrilić, I. (2013). *Utjecaj modela poslovne izvrsnosti na konkurentsku prednost hrvatskih poduzeća (doktorska disertacija)*. Osijek: Ekonomski fakultet.
- Zelenika, R. (1998). *Metodologija i tehnologija izrade znanstvenog i stručnog djela*. Rijeka: Ekonomski fakultet u Rijeci.
- Ziegenbein, K. (2008). *Kontroling*. Zagreb: RRiF plus.
- Žager, L. (Ur.). (2008). *Analiza financijskih izvještaja*. Zagreb: Masmedia.

**Biljana Lončarić, Ph.D.**

Tourist Board of Slavonski Brod

Victory Square 28/1, 35000 Slavonski Brod, Croatia

Tel. 00 385 35 447 721 Fax: 00 385 35 406 721

E-mail address: info@tzgsb.hr

## **MARKETING PROGRAM OF THE CLUSTER „SLAVONIAN BASKET“ NEW CHALLENGES**

### **MARKETING PROGRAM TURISTIČKOG KLASTERA „SLAVONSKA KOŠARICA“ NOVI IZAZOVI**

#### **ABSTRACT**

*When we are talking about the region of Slavonia as a tourist destination, the Tourism Cluster „Slavonska košarica“, founded in 2011, by the city of Slavonski Brod, can be extracted as an example of good practice in the field of networking. Already in 2012, cluster became a regional and now networks more than a hundred manufacturers of food, drinks and handicrafts; providers of tourist services, as well as public institutions from five Slavonian counties. The results of the primary research conducted in February 2015 showed that one-third of surveyed cluster members thought that it was most appropriate to implement networking in the tourism sector at the regional level, and that the current cluster activities partially justified the expectations of the members. Assuming that the reason for this lies in the fact that, when it comes to marketing activities of cluster, it acted only in the promotion, the Cluster Assembly, held in January 2016, decided to intensify the activities of cluster in the field of creating a product, distribution (sales), pricing policies and internal processes and to examine the opinion of the members of the cluster with respect to those activities. For this purpose, a new primary research was conducted in order to conceive whether cluster members have been satisfied with the existing model of networking; then, in which activities, when it comes to promotion, internal marketing and sales, they intend to participate; whether they support the concept of creating a unique tourism products under the umbrella brand of the cluster, and the concept of "removing price" adding to the breakthrough in the tourist market, and what they think about the idea of selling products (and services) of the cluster members through the so-called visitor centers. The aim of the work will be to get the results on the basis of which it will be possible to improve cluster activities in all the key elements of the marketing mix.*

**Keywords:** tourism cluster; networking; promotion; distribution; price

#### **SAŽETAK**

*Kad je riječ o regiji Slavoniji kao turističkom odredištu, kao primjer dobre prakse u segmentu umrežavanja, može se izdvojiti turistički klaster „Slavonska košarica“ osnovan od strane grada Slavanskog Broda 2011. Već 2012. klaster je postao regionalan te danas umrežava više od stotinu proizvođača hrane, pića i rukotvorina; pružatelja turističkih usluga, kao i javnih institucija s područja svih pet slavonskih županija. Rezultati primarnog istraživanja provedenog u veljači 2015. pokazali su da jedna trećina anketiranih članova klastera misli da je umrežavanje u turističkom sektoru najsvrsishodnije provesti na razini regije, a da su dosadašnje aktivnosti klastera*

*djelomično opravdale njihova očekivanja. Polazeći od pretpostavke da razlog za isto leži u činjenici da je, kad je riječ o marketinškim aktivnostima, klaster djelovao samo u segmentu promocije, na Skupštini klastera održanoj u siječnju 2016. odlučeno je da se intenziviraju aktivnosti klastera i u segmentu stvaranja proizvoda; distribucije (prodaje), politike cijena i internih procesa te da se ispita mišljenje članova klastera glede navedenih aktivnosti. U tu je svrhu provedeno novo primarno istraživanje, a cilj rada bit će analiziranje i sintetiziranje rezultata istraživanja, odnosno spoznavanje jesu li članovi klastera zadovoljni postojećim modelom umrežavanja; na dalje, u kojim aktivnostima, kad je riječ o promociji, internom marketingu i prodaji, imaju namjeru sudjelovati; je li podržavaju koncept stvaranja jedinstvenih turističkih proizvoda pod krovnim brandom klastera, odnosno koncept „skidanja cijena“ radi jačeg proboja na turistička tržišta te što misle o ideji da se proizvodi (usluge) članova klastera prodaju kroz tzv. centre za posjetitelje.*

**Ključne riječi:** turistički klaster, umrežavanje, promocija, distribucija, cijena

## 1. Introduction

Today is a widespread opinion that the cluster connection is the basis for ensuring success of certain areas in a global economy. Therefore, those who are responsible for creating the conditions to enable the development of the local economy often conduct a policy of clusters\* stimulating that is in the public perceived as preferred. Therefore, the number of small and medium business entities joined in clusters has been growing (Lončarić, B., Petrovic, T., 2015, 98).

Different authors define clusters in different ways, with Porter as one of the most cited authors who said that the clusters are „geographically concentrated, interconnected businesses subjects and institutions in a particular area, many of them including governmental and other organizations such as universities, development agencies, institutions for education, trade associations and others“ (Porter, ME, 1998, 78, 79, 89).

In the modern economy entrepreneurs are becoming increasingly aware that the possibility of their global competition depends on the degree of their relationship to other entities who work in the local community, in the sense that better connection means at the same time ability to achieve greater efficiency, reduce costs, and recruit the best human resources. At the same time, interdependence becomes the key to success, while modern clusters are managed as a system of interdependent stakeholders (Lončarić, B., Petrović, T., 2015, 98).

The management of clusters can be implemented in various ways, most often in one of the following forms:

- private management, where representatives of the private sector manage the resource base and conduct coordination,
- collective-private management, where a key role in the management has been given to a formal institution that brings together the private sector and strategic coordination, such as the chamber of commerce, a professional association, etc.,
- governance, when resources are managed by public institutions (state or local authorities, research centers, etc.),
- combined control which is a combination of the above mentioned ways of management, with one dominant entity (Pitelis, C., Sudgen, R., Wilson, JR, 2006, 163).

The theory of networking in the tourism sector dates back ten years ago, when it was recognized that the relationship between economic operators had a stimulating effect on the exchange of knowledge between different subjects, what resulted in qualitative and quantitative benefits to a trader community and destination (Morrison, AM et al., 2004, 198). The success of a tourist destination depends on its ability to adapt to the intense economic, political, technological, social and cultural changes, while successful managing the development of tourism of destinations implies close cooperation between public and private sector, which includes the creation of joint projects through public-private partnership (Bagaric, L., 2010, 237).

Entrepreneurship in tourism has been based on the same economic principles as well as other economic activities, but there are differences according to the specific characteristics of resources and the complexity of the tourism product that has been valorized on the tourist market (Bartoluci, M., Buda, V., 2010, 182,183). At the same time, in the tourism sector networked small and medium-sized economic operators, so-called SMEs, can compete globally, cooperating locally, with obvious benefits to business in terms of increased flexibility, better marketing information, innovation, better opportunity to enter into other networks or clusters at the national level and through it, the development of resources and the transfer of knowledge between stakeholders (Novelli et al., 2006, 1143).

Thereby, the European regional policy is designed in such a way that concrete activities stimulate economic growth and quality of life in European regions, while regional policy funds, among other things, serve to encourage SMEs to become more innovative and competitive<sup>1</sup>.

## **2. Clusters in Croatia**

When it comes to the current national policy that regulates and promotes the development of small and medium enterprises in Croatia, it should be noted that the same has been based on the provisions of the Strategy of development of entrepreneurship in Croatia 2013-2020 developed by the Ministry of Entrepreneurship and Crafts, with the main aim of increasing the competitiveness of small businesses in Croatia (Lončarić, B., Petrović, T., 2015, 100). According to data from the annual financial statements of micro, small and medium-sized enterprises, in 2013 most of them achieved positive financial results and operated with a net profit (Ministry of Entrepreneurship and Crafts, 2015, 5).

In 2011 the Croatian Parliament adopted the Strategy for Cluster Development in the Republic of Croatia, although in that time called Ministry of Economy, Labour and Entrepreneurship, already from 2005, through the project "Clusters-joint product", had been encouraging clustering in the following industries: wood processing; leather and footwear industry; printing; construction, ICT; tourism and hospitality; shipbuilding; production of medical equipment; production of municipal equipment; food industry; metallurgical industry (Lončarić, B., Petrović, T., 2015, 100). Clustering has also been encouraged by the Croatian Chamber of Economy by which operates Clusters\* Community established in 2007, with sixty networked members (Croatian Chamber of Economy, 2015, 1).

Ministry of Entrepreneurship and Crafts, through annual programs for the promotion of business and crafts, promotes and cofinances cluster activities. In 2014, through the measure A3: *Entrepreneurship of clusters*, activities of seven Croatian clusters were supported with a total of 3,570,052.03 HRK, where the average of aid granted, was 510,007 HRK and a share of aid granted in the total number of entries 36.84%. Although the program aimed at promoting business and trade "Business impulse 2015", under the Operational Program „Competitiveness and cohesion 2014 to

---

<sup>1</sup>Policies of the European Union, [www.europe.eu/pol/index\\_en.htm/](http://www.europe.eu/pol/index_en.htm/), March, 2016

2020", also provided for support for cluster activities through the program " Networking entrepreneurs ", with a total planned funds available in the amount of 304,000 000.00 HRK (Ministry of Entrepreneurship and Crafts, 2015, 15, 75), during 2015 there was no possibility to apply.

As previously noted, networking and clustering are recommended in the tourist industry, and, among other reasons, because of heterogeneity of different activities related to accommodation, catering, transport, industry of external institutions etc. contributes to building quality structures destinations in the function of tourism development (Scott, N., Baggio, R., Cooper, C., 2008 , 90-95).

Clustering of the tourism sector in Croatia is still in its infancy and has not reached a satisfactory level. It is particularly evident when talking about linking of tourism entities at the level of tourist destinations, as well. In this sense, the pilot project of the program "Croatia 365" which was introduced by the Ministry of Tourism in September 2014, with the primary objective of a better use of resources during the pre- and post-season (Loncaric, 2015, Ruzic, D., 2015, 282), but also to encourage joint actions of networked subjects, can be evaluated as justified, regardless of the doubt to what extent the present project has started operating in practice.

When speaking of networking at the level of Croatian tourist destinations, it is evident that, at the level of tourist destinations, Istra can be mentioned as an positive example. In Istria, according to the Tourism Master Plan of Istria for the period 2004 - 2012, have been defined seven clusters: Umag-Novigrad; Poreč; Vrsar-Funtana; Rovinj; Labin-Rabac; Inland Istria and Pula-Medulin (Istrian Tourist Board, 2002, 7), while, when talking about the continental part of Croatia, as the first example of clusterization we should mention the Tourism Cluster „Lonjsko polje“ with 70 networked members<sup>2</sup>.

### **3. Regional Tourism Networking**

Regional clusters can be characterized as a production networks strongly interconnected business entities (including specialized suppliers), agencies that "produce" knowledge (universities, research institutes, institutions for technical support), institutions that "connect" (brokers, consultants) and customers, interconnected in the value added chain of production (Asheim, B. Isaksen, A., 2001). The regional development policy should aim at achieving a balanced development of all parts of the tourist region of Slavonia, in a way that is through networking to ensure favorable conditions for the transfer of knowledge, technology, entrepreneurship, financial resources and thus achieve economic, tourist and prosperity of the whole area (Loncaric, 2012, 46, 47).

The most common initiators of collaboration between stake holders in tourism at the level of tourist destinations in Slavonia are the tourist boards. Their links with institutions and tourist operators who participate in the creation of the tourism product can be stronger or looser, what varies from case to case and depends on many factors. Tourist boards that operate at the local level cooperate with the institutions "from the top" which supervise (and co-financed) their activities (the Croatian National Tourist Board and the Ministry of Tourism), and with other institutions at local level, whether with local executive authorities, companies dealing with communal activities and educational institutions, whether with entities that directly participate in the creation of tourism products (service providers in the tourism and cultural sector; holders of entertainment, sports and recreational activities; manufacturers of food and souvenirs).

---

<sup>2</sup> Tourism Cluster „Lonjsko polje“, <http://tk-lonjsko-polje.hr/>



In the conditions of globalization and increasing competition, cooperation and networking in tourism sector of the tourism underdeveloped areas is a necessity for the survival on the tourist market (Christensen, P. McIntyre, N., Pikhholz, H., 2002; 19 -21), whereas, especially when it comes to the regional level, public-private partnership is becoming the preferred method of support and managing the development of local tourism activities and solving problems faced by small and new enterprises in markets where there is great competition.

One of the informal forms of mutual networking, which appeared in 2014, are, at least when talking about tourist areas, before mentioned PPS destinations. Currently in Croatia there are 39 of them, among which 12 are located in the continental Croatia, and 5 operates in eastern Croatia<sup>3</sup>. According to data from the Tourist Boards of Slavonian cities where there are the headquarters of destinations, in Slavonian PPS destinations there are more than 500 members - tourist companies.

Regardless of whether we are talking about formal or informal networking entities within individual regions with the same or similar geo-, historical or some other characteristics, basic brake to intense connection is primarily the lack of funds for activities, primarily those which should be remitted "from the top" - meaning government sources. In the case of clusters, it is evident that the cluster activities are mostly financed by membership fees and donations of founders and primarily depend on whether the cluster members have been aware of the benefits which brings networking to them.

#### **4. The Tourism Cluster "Slavonian basket"**

The results of so far done research showed that the most acceptable form of networking subjects that create tourist products in the region of Slavonia is contractual vertical marketing system (Kotler, 1998, 472), with the Tourism Cluster „Slavonska košarica“ as an example of good practice in the area of networking. Today this cluster networks 126 members: manufacturers of food, beverages and handicrafts; representatives of the accommodation and catering sector; owners of travel agencies and tourist economies; representatives of local governments; tourist boards and other public and educational institutions from all over the region (Lončarić, B., Petrović, T., 2015, 104).

The principal activities of the cluster are determined by annual work programs adopted by the Assembly consisting of representatives of all 126 members, with maintenance of educational workshops for members; development of interactive web portals; participating in fairs and organizing special presentations on certain tourist markets and benchmarking trips, as the most significant. According to the Report on financial operations of the cluster for 2015, in 2015 the cluster generated total revenue in the amount of 169 803.03 kuna, which is by 42% more than in 2014. In the structure of revenues the largest share was of founders and members grants and of members fee which was 200.00 HRK per year per member, with the option of installment payments in quarterly periods, all in accordance with the decision of the cluster 's Assembly from February 2014 (Tourism Cluster „Slavonska košarica“, 8).

#### **5. The results of the primary research**

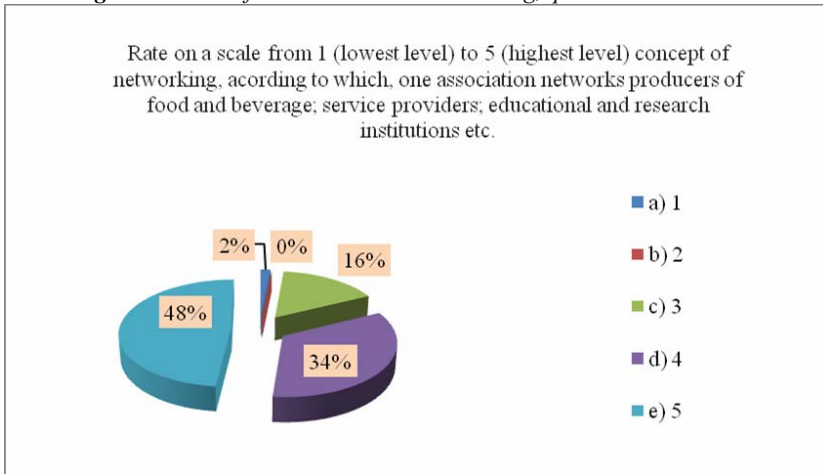
As the cluster, when it comes to marketing activities, practised its activities only in the promotion, at the Assembly, held in January 2016, it was decided to intensify cluster activities in the segment of creating products; distribution (sales), pricing policies as well as internal processes and to examine the opinion of the members of the cluster with respect to those activities. For this purpose,

---

<sup>3</sup>Croatian national tourist board, <http://www.croatia.hr>, March, 2016

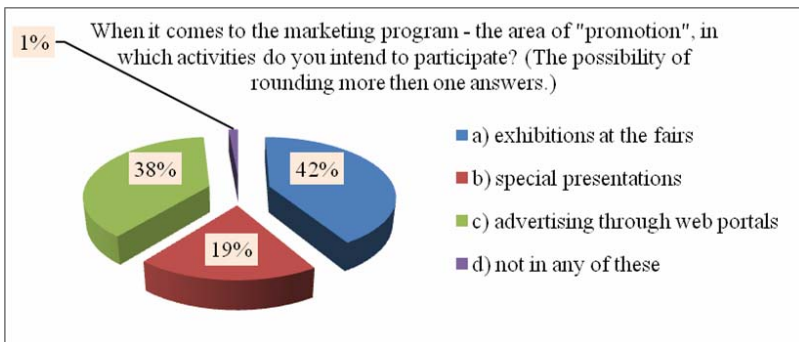
it was conducted primary research to determine whether the cluster members were satisfied with the existing model of networking; in which activities, when it comes to promotion, internal marketing and sales, they intended to participate; if they supported the concept of creating a unique tourism products under the umbrella brand of the cluster as well as the concept of "removing price" for a stronger penetration in tourist markets and what they thought about the idea to sell the products (services) of cluster members through the so-called visitor centers. The study included 89 members, accounting for 70.6 %" of the total membership. The research results are shown below:

**Figure 1** Model of cluster members networking, question and answers



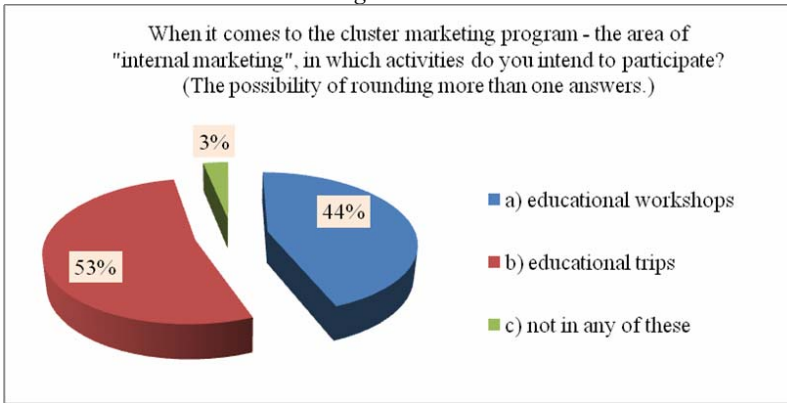
Source: Self conducted research, January 2016.

**Figure 2** Marketing activities of the cluster in the area of promotion, question and answers



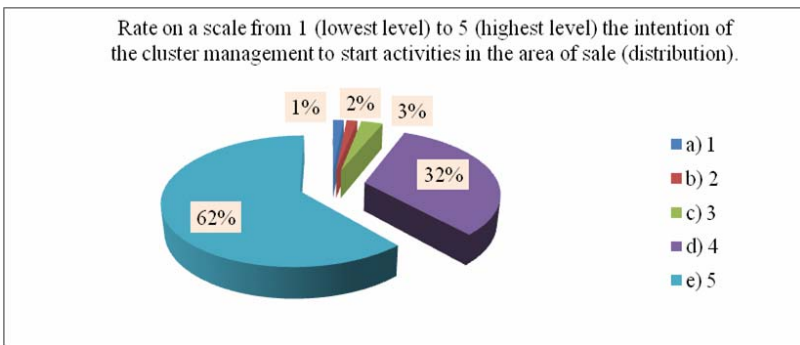
Source: Self conducted research, January 2016

**Figure 3** Marketing activities of the cluster in the area of internal marketing, issues and agreements



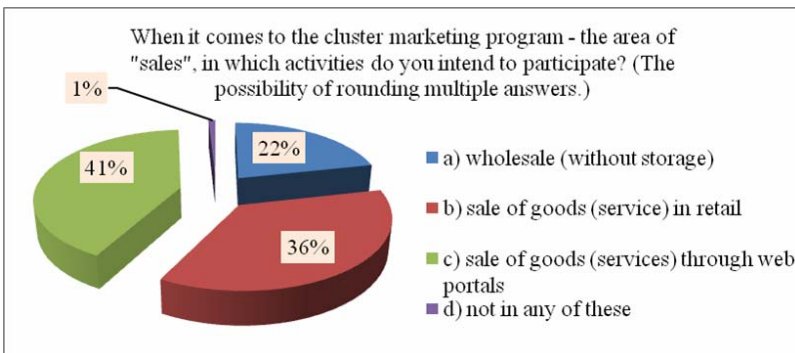
Source: Self conducted research, January 2016

**Figure 4** Marketing activities of the cluster in the area of sales, question and answers



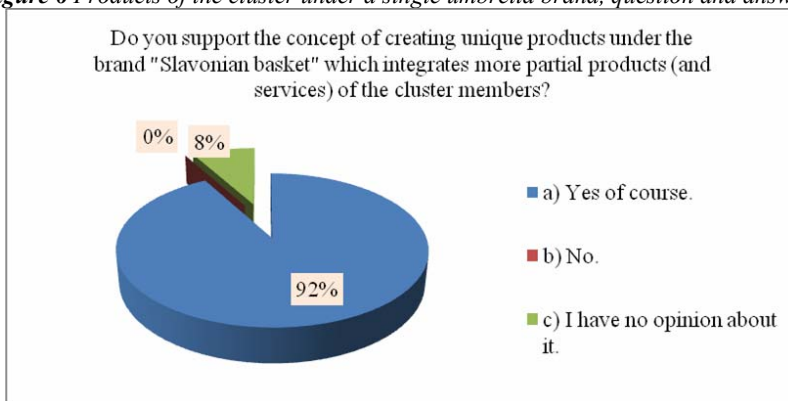
Source: Self conducted research, January 2016

**Figure 5** Sales activities of the cluster in individual areas of action, question and answers



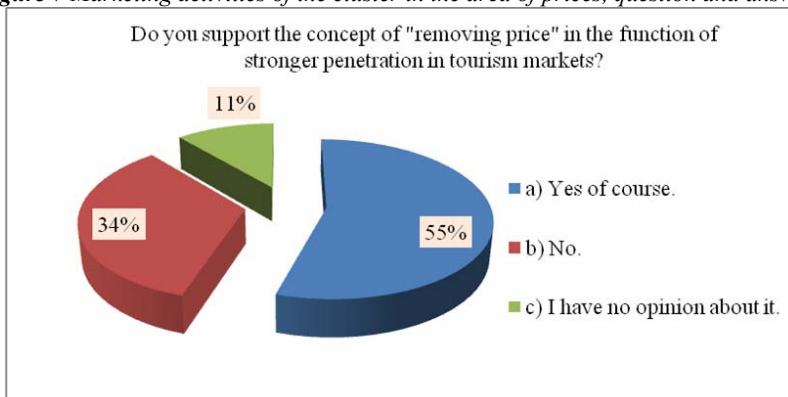
Source: Self conducted research, January 2016

**Figure 6** Products of the cluster under a single umbrella brand, question and answers



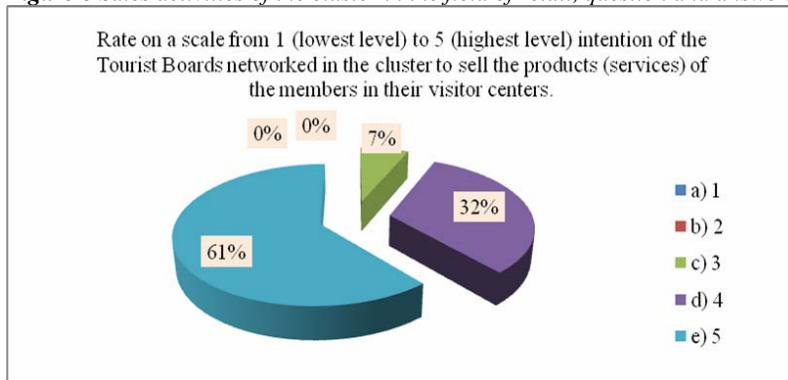
Source: Self conducted research, January 2016

**Figure 7** Marketing activities of the cluster in the area of prices, question and answers



Source: Self conducted research, January 2016

**Figure 8** Sales activities of the cluster in the field of retail, question and answers



Source: Self conducted research, January 2016

As can be seen from the view in Figures 1, 2, 3, 4, 5, 6, 7 and 8, the results of primary research are as following:

- 82% of respondents concept of networking, whereby in one association are networked producers of food and beverage, service providers, educational and research institutions, institutions and entities for the promotion and units of local government rated „excellent“ (48%) and "very good" (34%),
- when it comes to the marketing activities of the cluster in the area of "promotion", 42% of members express intention to exhibit at the fairs, 38% intend to advertise on portals, and 19% intend to participate in special presentations,
- when it comes to the marketing activities of the cluster in the area of "internal marketing", 53% of members express intention to be a participant in educational trips, and 44% to participate in educational workshops,
- 94% of respondents intention of the cluster management to start activities in the area of sales (distribution) rated "excellent“ (62%) and "very good" (32%),
- when it comes to the area of "sales", 41% of members expressed a desire of distributing products through web portals; 36% in retail objects, and 22% through wholesale, meaning without storing,
- 92% of respondents said that they supported the concept of creating unique products under the brand "Slavonian basket", according to which more partial products were integrated in one united, while, when it comes to the concept of "removing prices", it has been supported by 55% of respondents, an not supported by 34% of respondents,
- 61% of respondents intention of the Tourist Boards of the cities networked in cluster to sell the products (services) of the cluster members within their visitor centers rated "excellent " (61%) and "very good" (32%) .

## 6. Conclusion

Regardless of the form of networking, competitiveness strategy should be primarily based on interest connections between commercial and non-commercial entities within a specific area focused on meeting the needs of tourists (Lončarić, B., 2012, 322). According to McGregor and Hodgkinson (MacGregor, RC, Hodgkinson, A., 2007, 227), in a modern approach to clustering, the main role should be given to social (creating of a trust relationship between economic operators and including institutions that provide infrastructure such as government, educational institutions, etc.), meaning, not only to the economic dimension.

Clusters represent an organizational form that connects businesses enterprises from economic sectors whose motives are integration of benefits conditioned by efficiency in products and services distribution (Horvat, Đ., Bogdanić, M., 2014, 312). The development of clusters generates positive effects for companies which are cluster members and for the wider areas in which clusters are, what leads to reducing of transaction costs and creating specialized local markets (Tijanac, L., 151)

When it comes to networking at the regional level, it is evident that it has become the practice in international settings, including the tourism industry, where there are frequent connections between the small tourist entrepreneurs, development agencies, regional tourism organizations and authorities. At the same time, economic operators belonging to a geographical cluster can share resources, responsibilities, communication and marketing, have a collective local brand, collective management and/or consulting. They can also plan joint activities involving analytical, strategic and operational marketing primarily as joint promotional activities undertaken by both the private and public sector, mentioning also that, according to the Strategy for the Development of Tourism

in 2020 (Ministry of Tourism, 2013, 28), one of the ten basic principles of Croatian tourism by 2020 is to create a partnership.

Organizationally, but also economically, the Tourist Cluster "Slavonska košarica" is a good example of networking and joint marketing activities of various stakeholders of tourism development in the region of Slavonia, regardless of the modest financial resources and a limited number of sources from which financed its activities.

Marketing program of the cluster "Slavonian basket", as well as all other economic operators, basically represents a setting an optimum combination of marketing mix in order to achieve set marketing objectives (Meler, M., Nebula, S. 147), or a combination of the control variables of marketing used by the company to achieve the required level of sales on the target market (Kotler, P. 82). The term „marketing mix“ was introduced in marketing terminology in 1948 (Senečić, J., 40), with product, price, place and promotion as the most commonly used basic variables, with the possibility of including other elements, in which case selection of the elements most often depends on the characteristics and activities of certain products and services (Ruzic D., 144) .

Elements of the marketing mix should be combined in the case of the cluster "Slavonian basket" as well, not keeping only the promotion as an area of activities, which has been practised till the end of 2015. The initiative of the Board of the cluster that the cluster during 2016 in its activities combines promotion with other elements of the marketing mix (product, price, sales, internal marketing) has been supported by the members of the cluster Assembly, who, in January 2016, adopted the program of activities and the marketing program for 2016, based on various marketing variables and supported by all members of the cluster, as showed in the results of research conducted in January 2016.

## REFERENCES

- Asheim, B. Isaksen, A. (2001): *Regional Innovation Systems: The Integration of Local Sticky and Global Ubiquitous Knowledge*, Journal of Technology Transfer
- Bagaric, L. (2010): *Tourism Destination Management and public-private partnership* , and: 20th Biennial International Congress: Tourism and Hospitality Industry 2010 - New Trends in Tourism and Hospitality Management, Faculty of Tourism and Hospitality Management Opatija, May, 06-08, 2010, pp.
- Bartoluci, M., Buda, V. (2010): *Managing entrepreneurial project tourism son of the Republic of Croatia* , Acta Turistica, Faculty of Economics and Business, University of Zagreb, Vol. 22, No. 2, pp. 179-200
- Christensen, P. McIntyre, N., Pikhholz, I. (2002): *Bridging Community and Economic Development - A Strategy for Industry Clusters Using this Neighborhoods Link to the Regional Economy* , Shorebank Enterprise Group
- Horvat, Đ., Bogdanić, M. (2014): *Competitiveness clusters - paradigm for economic development of the Republic of Croatia* , in: 3rd International Scientific Symposium: Economy of Eastern Croatia - Vision and Growth, University of JJ Srossmayer in Osijek, Faculty of Economics in Osijek, May 22-24, 2014, pp. 310-320

- Kotler, Ph. (1988): *Marketing Management I*, Informator, Zagreb, pp 82
- Kotler, Ph., Bowen, J., Makens, J. (1998): *Marketing for Hospitality and Tourism*, second edition, Prentice Hall, Upper Saddle River
- Lončarić, B. (2015): *Cluster "Slavonia basket" as the backbone of tourism development in the region of Slavonia*, and : 4th International Scientific Symposium - Economy of eastern Croatia - vision and growth of the University of J.J. Strossmayer in Osijek, Faculty of economics, Osijek, May, 21-23, 2015, pp. 97-111
- Lončarić, B. (2012): *Marketing in tourism Slavonia and Baranja*, Ph.D. thesis, University of Osijek, Faculty of Economics, Osijek
- Lončarić, B. (2015): *The "United 365" and a function of stronger market positioning of the continental part of Croatia on foreign tourism markets*, and: 4th International M-Sphere Conference for Multidisciplinary and the Business and Science, M-Sphere, Dubrovnik, 22-24 October 2015, pp. 282-291
- MacGregor, R.C., Hodgkinson, A. (2007): *Small Business Clustering Technologies : Applications and Marketing, Management, IT and Economics*, Idea Group Publishing, London
- Meler, M., Nebula, S. (1986): *Marketing in tourism - hospitality business*, RO "Zagreb", Samobor
- The Ministry of Business and Trade (2015): *Business impulse 2015 program to encourage business and trade*, Zagreb
- Ministry of Tourism (2013): *Tourism Development Strategy of the Republic of Croatia and 2020*, Zagreb
- Morrison, A.M. et al. (2004): *International Tourism Networks*, International Journal of Contemporary Hospitality Management, Vol. 16, No. 3, pp. 197-202
- Novelli, M. et al. (2006): *Networks, clusters and innovations in tourism: Networks, clusters and innovations in tourism: A UK experience*, Tourism Management, Vol. 27, No. 6, pp. 1141 – 1152
- Pitelis, C., Sudgen, R., Wilson, J.R., Wilson, J.R. (2006): *Clusters and Globalization, The Development of Urban and Regional Economics*, Edward Elgar Publishing, Cheltenham
- Porter, M.E. (1998): *Clusters and the New Economics of Competitions*, Harvard Business Review, Reprint Number, pp. 78-89
- Porter, M.E. (1998): *On Competition*, Harvard Business Review Book
- Ruzić, D. (2007): *Marketing in the tourism hospitality industry*, Josip Juraj Strossmayer, Faculty of Economics, Osijek
- Scott, N., Baggio, R., Cooper, C. (2008): *Network Analysis and Tourism: From Theory to Practice*, Channel View Publications, Clevedon
- Šenečić, J. (1979): *Marketing planning and strategy in the OUR has*, Informator, Zagreb

Tijanac, L. (2009): *The European Union policy in the formation of clusters* , Economic Research, Vol. 22, No. 1, pp. 149-167

Cluster Lonja field, <http://www.tk-lonjsko-polje.hr/>, March, 2016

Cluster "Slavonian basket" ( 2016) : *Report on the activities and financial operations of the Tourism Cluster "Slavonian basket" in 2015 .*, Slavonski Brod

Cluster "Slavonian basket" (2014): *The decision on the amount of the annual membership fee for the members of the cluster*, Slavonski Brod

Cluster "Slavonian basket" ( 2016) : *Report on the activities and financial operations of the Tourism Cluster "Slavonian basket" in 2015 .*, Slavonski Brod

Tourist Board of Slavonski Brod (2010): *Tourism Master Plan for the city of Slavonski Brod* , Slavonski Brod

Istria Tourist Board (2002): *Tourism Master Plan of Istria 2004 - 2012* , Porec  
*Crafts Act* (2013), Official Gazette 143/2013.

**Law on Crafts** (2013), Narodne novine, 143/2013

**Law on Tourism Boards and Promotion of Croatian Tourism** (2008), Official Gazette 152/2008.

[http://www.europe.eu/pol/index\\_en.htm/](http://www.europe.eu/pol/index_en.htm/), The European Union, Publications Office (2016): *The policies of the European Union* , March, 2016

<http://www.Hgk.hr/o-zajednici-11/>, Croatian Chamber of Economy (2015): *The work of the Community cluster* , April, 2015

<http://www.croatia.hr/>, Croatian National Tourist Board, , March, 2016

<http://www.tk-lonjsko-polje.hr/>, Cluster Lonja field, March, 2016



**Joanna Miklińska PhD**

Gdynia Maritime University  
ul. Morska 81-87  
81-225 Gdynia, Poland  
00 48 58 6901665  
E-mail address: j.miklinska@wpit.am.gdynia.pl

**Magdalena Klopott PhD**

Gdynia Maritime University  
ul. Morska 81-87  
81-225 Gdynia, Poland  
00 48 58 6901665  
E-mail address: m.klopott@wpit.am.gdynia.pl

**SPECIAL ECONOMIC ZONES AS AN INSTRUMENT OF REGIONAL DEVELOPMENT SUPPORT – EXPERIENCES FROM POLAND****POSEBNE GOSPODARSKE ZONE KAO INSTRUMENT POTPORE ZA REGIONALNI RAZVOJ – ISKUSTVA POLJSKE*****ABSTRACT***

*Special Economic Zones (SEZs) – designated areas in a country where business activity may be conducted on preferential conditions – can be met in different parts of the world. They contribute to the modernization of regions especially in countries undergoing social and political transformation. These include some countries in Central and Eastern Europe (for e.g. Poland, Lithuania), as well as in Southern Europe (e.g. Croatia). SEZs have existed in Poland since 1995; today there are 14 active zones and the permission for their operation has been extended to 2026. The SEZs are believed to have considerably contributed to the economic development of many Polish regions and their successes have been internationally recognized. Their high standing in the “fDi Global Free Zones of the Year 2015” ranking (and its previous editions) seems to prove that. Therefore, the main goal of the paper is to present the wealth of experience from SEZs development in Poland. In order to give the full picture their development and outcomes have been described in both quantitative and qualitative terms. In case of the former, data concerning the number of jobs created, the value of investments made in SEZs, and the increase of SEZs’ area have been analysed. As far as the qualitative aspects of SEZ development in Poland are concerned, the paper emphasizes their importance for transfer of modern technology and innovations as well as for the emergence of regional sectoral specialization, which contributes to the increase in the competitiveness of the hosting regions. Furthermore, the cluster structure of SEZs has been briefly described. In order to fulfil the main objective of the paper a review of the literature as well as an analysis of reports by governmental agencies, legislative acts, documents and information published by the Ministry of Economy have been carried out. In addition, data provided by the particular SEZs has been analysed. Research findings indicate the factors that determined the Polish SEZs’ success as well as highlight activities that directly contribute to the ever-increasing attractiveness of SEZs in Poland. Some of the key determinants behind the successful emergence and operation of SEZs originate from a range of incentives and exemptions for investors, further changes in the law that facilitate their functioning and the significant activity of authorities managing the SEZs. The results of the research can serve as potential guideposts for other countries.*

**Key words:** *Special Economic Zones, SEZs in Poland, public aid, regional development, competitiveness of the regions*

## SAŽETAK

*Posebne ekonomske zone (PEZ), kao područja sa povoljnim poslovnim okruženjem, funkcioniraju u različitim mjestima u svijetu. Oni doprinose modernizaciji regije, prije svega u zemljama koje su pretrpjele sustavnu preobrazbu. To je bio slučaj u nekoliko zemalja srednje i istočne Europe (uključujući i Poljsku, Litvaniju) i južne (npr. Hrvatska). U Poljskoj, PEZ postoji od 1995. godine, ima ih 14 a mogućnost njihovog djelovanja je produžena do kraja 2026 godine. Procjenjuje se da je to PEZ pridonio gospodarskom rastu u mnogim regijama Poljske, a njihovi uspjesi su priznati u svijetu. O tome svjedoče njihove visoke pozicije u poretku fDi Global Free Zones of the Year 2015 i njegovim prethodnim izdanjima. Stoga je glavna svrha članka ukazati na bogato iskustvo stečeno od razvoja PEZ u Poljskoj. Da bismo dobili potpunu sliku o tom razvoju i njezinom učinku predstavljen je u kvantitativnom i kvalitativnom smislu. Napravljena je analiza podataka, između ostalog, o povećanju veličine područja zona, broju radnih mjesta i vrijednost investicionih ulaganja u zonama. Približavajući kvalitativne aspekte razvoja PEZ u Poljskoj pokazujemo njihov doprinos transferu suvremene tehnologije, inovacije i razvoju regionalne industrijske specijalizacije, a zahvaljujući time i povećanju konkurentnosti regije. Predstavljamo strukturu klastera koji djeluju na terenu PEZ u Poljskoj. Za realizaciju glavnog cilja članka obavljena je analiza literature, analiza pravnih akata, dokumenata i informacija objavljenih od strane Ministarstva Gospodarstva, izvještaja vladinih agencija. Uradjena je analiza podataka dobivenih izravno iz pojedinih PEZ. Zaključci studije identificiraju postojeće čimbenike uspjeha PEZ u Poljskoj. Njihovi izvori su između ostalog: korišćeni instrumenti od strane države u vidu raznovrsnih poticaja i nadoknada za investitore, daljnje regulatorne promjene i značajne aktivnosti tvrtki odgovornih za upravljanje zonama, koje stvaraju dobre uvjete za investitore. Analizi rezultata ima univerzalna rješenja koja mogu biti primjer za druge zemlje.*

**Ključne riječi:** *posebne gospodarske zone, PEZs u Poljskoj, javna pomoć, regionalni razvoj, konkurentnosti regije*

### 1. Introduction

Special Economic Zones can be met in different parts of the world. Due to various geopolitical, economic, and formal and legal determinants it is difficult to find two similar solutions. SEZs have also been shaped by historic events since they are not present-day phenomena. The first zones in the form of free harbours were established already over 2000 years ago (ESCAP, KMI, 2005, 5). Their later models of the contemporary zones include those located in Gibraltar (1704) and in Singapore (1819). The first modern zone was established in Ireland in 1959, and later subsequent zones began to spring up. Today, many SEZs are established in the developing countries. They operate in East Asia and Latin America, and those initiatives are recognized as successful, which fails to apply to some zones in Africa (Akinci, Crittle, 2008, 1-3). The literature provides also a wealth of experience on SEZs functioning in China. They played a significant role there by opening the Chinese economy to the world, and through economic development of regions situated inside the country (ESCAP, KMI, 2005, 51).

When we organize the types of SEZs in practice, the literature differentiates some major types, *inter alia*: free trade zones (FTZs, also called commercial free zones), Export-processing zones (EPZs), industrial parks, economic and technology development zones, high-tech zones, free ports, enterprise zones, science and innovation parks and other special zones (e.g. petrochemical zones) (Akinci, Crittle, 2008, 3; Zeng, 2015, 2). Despite obvious differences, the above mentioned types of zones have common features. They are called SEZs, meaning “demarcated geographic areas contained within a country’s national boundaries where the rules of business are different from those that

prevail in the national territory” (Farole, Akinci 2011, 3) or „geographically delimited areas administered by a single body, offering certain incentives (generally duty free importing and streamlined customs procedures, for instance) to business which physically locate within the zone” (Akinci, Crittle, 2008, 2). The functioning of SEZs involves various exemptions and incentives (most frequently fiscal ones) provided by a particular country. As a result, there are different correlations between particular types of zones and the areas where they were established, which exert various influence on the regional development.

Numerous SEZs can also be found in Central and Eastern Europe, in countries such as Lithuania, Latvia, Estonia, Romania, Croatia and Poland. In this group of countries which shares common experience of political system transformation we can find zones of similar character. The distinguishing feature in the Polish SEZs involves the largest scale of completed investments (KPMG, 2012, 48-49). The Polish zones are believed to have played an important role in the modernization of the country’s economy through factors resulting from their functioning: quantitative and qualitative changes; direct and indirect effects (Miłaszewicz, 2011, 12, 32). The establishing of SEZs is also perceived as an effective way to stimulate the regional competitiveness (e.g. thanks to multiplier effects) (Typa, 2013, 16).

## **2. Special Economic Zones in Poland – basic information**

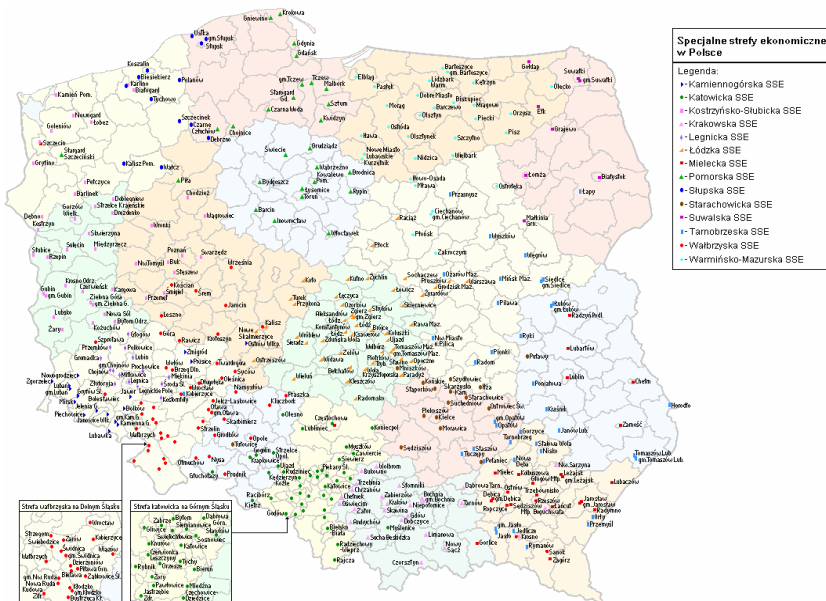
Special Economic Zones in Poland were established in accordance with the Act on Special Economic Zones of 1994 (Act on SEZs). In that time, Poland was in a difficult economic situation related to the intensive political, economic and social transformations. SEZs, as an instrument of regional development, were established in economically the least developed areas – where entire sectors of economy collapsed and structural unemployment existed (Ministry of Economy, 2005, 29).

Following the example of world solutions, SEZs were to become a remedy for the problems indicated in particular regions. The main objective related to establishing SEZs, provided in the Act on SEZs, included more rapid economic development of particular regions in the country, through: development of particular areas of economic activity; development of new technical and technological solutions and their use in the national economy; export development; increase in the competitiveness of produced goods and services rendered; development of the existing industrial property and economic infrastructure; creating new jobs; development of unused natural resources respecting the principles of environmental sustainability (Act, 1994, art. 3).

To achieve those goals in various parts of Poland, over several years, subsequent SEZs were established (the first in 1995). An important feature, already visible at first glance in Fig. 1, is their dispersed location. Today, each of the 14 SEZs has numerous sub-zones (even a dozen or so each). They include the land covered by SEZs status, situated dozens or more kilometres from each other. Such solution is provided for in the Polish laws. Nowadays, SEZs cover the land located in over 160 cities and over 230 municipalities. Changes within the borders of all fourteen zones have been an ongoing process.

The concept of SEZ in Poland is defined as „administratively separate part of Poland where entrepreneurs making new investments may obtain regional aid in the form of income tax exemption with regard to income gained from activity specified in the permission” (Ministry of Economy, 2013,4). The public aid granted complies with Commission Regulation (EU) No 651/2014 of 17 June 2014 declaring certain categories of aid compatible with the internal market in application of Articles 107 and 108 of the Treaty.

Figure 1 Special Economic Zones in Poland, status as at the end of 2014\*



\*complete data for 2015 is not yet available  
Source: Ministry of Economy, 2015, 58.

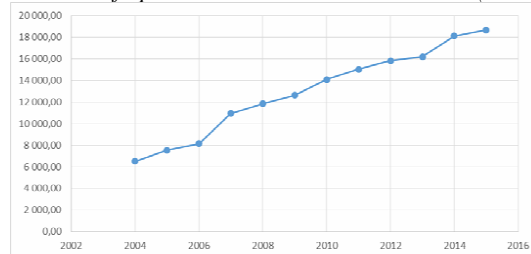
In order to support investments crucial for the social and economic development of the country, while trying to determine directions for further development of SEZs in Poland, in 2009 the Ministry of Economy provided a document specifying five criteria, from among which at least one shall be met by an investment eligible for aid in SEZs. The criteria include: innovation; priority sectors (e.g. automotive or aviation); support for the development of clusters, industrial and technological parks; increase in the level of industrialization of poorly industrialized regions; creation of a specific number of new jobs or of specific minimal eligible costs of investment (Ministry of Economy, 2009b, 3, 4). The entrepreneurs locating their business activity in SEZs are granted public aid in the form of income tax exemptions with regard to business activity conducted within the zone under the permission. The aid granted within the zones refer to the scope of activity specified in the permission; moreover, it is diversified *inter alia* spatially (Pastusiak et al. 2014, 133), its intensity is different for particular areas in the country, and also depends on the size of enterprise (higher for SME, for which the availability of zones was increased additionally in 2014, thanks to further legal amendments). Additionally, regional aid with regard to activity in SEZs may be granted in the form of property tax exemption. It is granted under the decision of municipal council (KPMG 2014, 21). The adoption of such solution makes it possible to support the development of selected regions.

### 3. Development of SEZs in Poland and effects of their functioning – quantitative aspects

In order to present the status of development and effects of SEZs functioning in Poland, the analysis of the reports of the Ministry of Economy has been carried out (they are published annually, as the government is obliged to present them to the Polish Parliament under the Act on SEZs). Moreover, other documents and data published by the above mentioned ministry were used (information on the operation of SEZs is submitted by their management boards to the Minister for Economy in the form of quarterly reports). The conducted analysis made it possible to discuss the most important quantitative aspects of SEZs development in Poland.

First of all, the development of the area of zones over the years was analysed. In the chart below (Fig. 2) there have been presented data as from 2004, when there were already, as today, 14 SEZs (the initial time when subsequent zones were established was omitted since during that time, two zones were closed down, and two merged). In 2004, the total area of SEZs amounted to 6 526.3 ha, and in September 2015 – already 18 687.36 ha. Additionally, we need to indicate that the result comes not only from adding new areas to the zones. Some areas lose the status of zones, when the entrepreneurs operating within the zones lose their permissions to run business activity. Nevertheless, under the analysis conducted, we need to indicate that between 2004 and 2015, the area of SEZs in Poland increased threefold. The level of SEZs' land development amounts to over 60% (Ministry of Economy, 2015, 10). Consequently, they contribute to the increase in the level of country land development. We need to emphasize that to make such development possible, the laws have been changed several times through increasing the maximal total limit of zone area. Today's limit, determined in 2015, amounts to 25.000 ha. Until 2026, we may have obtained over 6.000 ha zone area more; therefore, the development potential is significant. Among the determinants which recently contributed to the development of SEZs' area, we need to indicate a favourable change in the laws introduced in 2014. It involved the possibility to include into SEZs' area private land owned by entrepreneurs and not only companies managing the zones or public land. Consequently, in 2014 private land constituted over 30% of land included in the zones (Ministry of Economy, 2015, 7). The investors can develop their activity in favourable conditions, e.g. near the main roads (today, significant part of SEZs' area is located near the Polish sections of TEN-T network corridors – Baltic-Adriatic and North Sea – Baltic).

**Figure 2** Area of Special Economic Zones in Poland (in hectares)

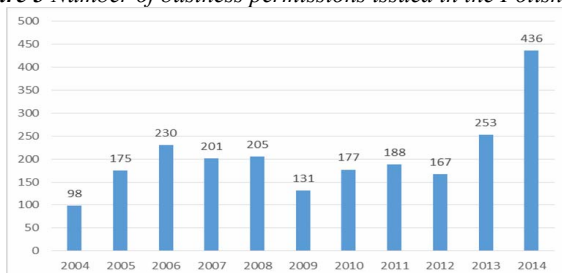


\*value for 2015 refers to status as at the end of September this year

Source: authors' own elaboration based on reports: Ministry of Economy, 2005-2015 and data published by the Ministry of Economy for 2015

Another element which makes it possible to evaluate the outcomes of SEZs functioning in Poland is the number of permissions which reflect interest in taking up business activity in SEZs. The process comprises numerous determinants, e.g. current requirements regarding public aid, size of available SEZs' area or global economic situation. The first permission was issued in 1996 and already on 31 December 1999 their total number (since 1996) amounted to 250. Then (in the second half of 2000) the number increased several-fold since some limitations were announced for the subsequent year (2001). At that time, many entrepreneurs with only rough investment plans were granted permissions. Since the investments were not started, the permissions were withdrawn. As a result, between 2000 and 2003, the number of permissions decreased, despite the fact that the new ones were issued (Ministry of Economy 2005, 13, 14). For the purpose of clarity of information, Fig. 3 presents time period when the situation with permissions issued and retained stabilized, i.e. between 2004 and 2014. It is also the time period after Poland's accession to the European Union (2004). (Complete data for 2015 is not yet available).

**Figure 3** Number of business permissions issued in the Polish SEZs



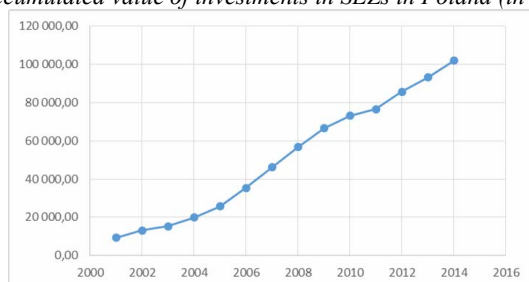
Source: authors' own elaboration based on reports: Ministry of Economy, 2005-2015.

The analysis of data in the chart above made it possible to observe that between 2005 and 2008 the number of issued permissions totalled around 200, which indicated some stability in this respect. Some attention is drawn to the decrease in the number of permissions issued in 2009, undoubtedly caused by the global economic crisis. In subsequent years, the number of permissions issued did not reach such low level but only higher values. Whereas, it began to increase evidently between 2013 and 2014, since there was a need to obtain the permission before the introduction of new rules on public aid in July 2014 (KPMG, 2014, 54) and since in 2013 the possibility of SEZs functioning was prolonged until 2026 (in 2014, as many as 436 permissions were issued). Till the end of 2014, 3211 permissions in total were issued in SEZs.

Business activity run in SEZs, under permissions, involves investments of various scope implemented by the entrepreneurs. Today, the accumulated value of investments completed in SEZs (Figure 4) amounts to over 100bn PLN. (approx. 23bn EUR). The Ministry of Economy on its web site provides that in one second the increase in investments for all SEZs in Poland totals 215 PLN. We need to add that the capital invested in the zones (over 74% in value and similar structure for several years) comes from six countries: Poland, Germany, USA, the Netherlands, Japan and Italy. Moreover, in terms of sectors, the majority of investment expenditure refers to sectors, such as: automotive; rubber and plastic goods; other non-metallic products; metal, paper, computer, electric and household goods, food-processing, chemical, wood and furniture (Ministry of Economy, 2015, 21, 25).

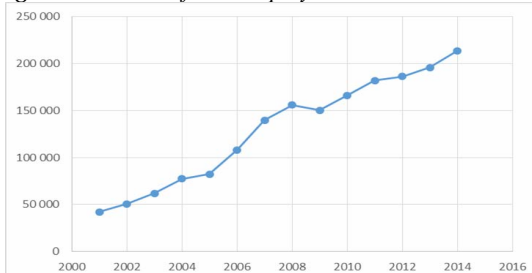
The repeatedly mentioned objective of SEZs functioning involves also creating new jobs. SEZs in Poland contributed to creating over 200.000 new jobs in total. Figure 5 presents the employment growth between 2001 and 2014.

**Figure 4** Accumulated value of investments in SEZs in Poland (in million PLN)



Source: authors' own elaboration based on reports: Ministry of Economy, 2005-2015.

**Figure 5** Number of new employments in SEZs in Poland



Source: authors' own elaboration based on reports: Ministry of Economy, 2005-2015.

The reports indicate that the factors which contribute to the above mentioned overall economic outcome of particular SEZs include, e.g. their location and the related level of social and economic infrastructure and availability of qualified personnel. The zones located in the western, southern and central part of the country rank high in terms of the value of investments, number of permissions issued and jobs created (Ministry of Economy, 2015, 11). While describing the results of SEZs functioning in Poland, in order to obtain a complete picture, it is necessary to specify the level of public aid granted to the entrepreneurs. In compliance with data from the Ministry of Finance until the end of 2013, the total amount of investors' tax exemptions in SEZs and companies managing the zones (they are also entitled to such exemptions) reached 14 633.59 million PLN (Ministry of Economy, 2015, 29-30). Upon evaluating the scale of benefits resulting from the aid granted it is determined (under historic data as at the end of 2012) that 1 million PLN of public aid for the investors in SEZs generated: 6.95 million of investments made by companies from SEZs; 0.23 million PLN of infrastructure investments made by managing companies, local authorities and utility suppliers; 0.37 million PLN of corporate income tax (CIT) paid by SEZ companies (after the exemption); 4.11 million PLN of value added tax (VAT) paid by SEZ companies; 17 new jobs in SEZ companies and 31 jobs in SEZ companies in total (Pastusiak et al., 2013, 4-5).

#### **4. Qualitative aspects of SEZ development in Poland and regional development**

From among multidimensional effects of SEZs functioning crucial role for regional development is also played by qualitative effects. In order to analyse them we used current information published by the zone management boards and conducted interviews with SEZs' various stakeholders with current knowledge on different issues of their functioning, which was possible during scientific and business conferences. Due to limited length of the study we selected those effects and presented only some issues – those which recently constitute important factor for SEZs development with impact on regional competitiveness. Before presenting them we need to add that in Poland, apart from the entrepreneurs in SEZs, the operation of managing companies exert significant impact on the qualitative development of zones. The role they were assigned under the Act on SEZs has still been evolving. The analysis of regulations revealed that at the beginning the said role referred to broadly understood zone management, land and property management, rendering particular services for investors and promoting SEZs. Recently (in 2015), due to statutory changes, new tasks for management boards were specified. They refer to taking actions by the management boards aiming at establishing clusters and cooperating with secondary schools and universities in terms of training for the purpose of local labour market.

Upon referring to the conditions of establishing clusters in SEZs we need to indicate that it is enhanced by concentrating in the zones the entities from one sector (both big companies and SME). In the previous paragraph we specified sectors which dominate in the Polish SEZs. For several years, they have been developing various cluster initiatives (among other things thanks to the support of zone management boards). The conducted research made it possible to identify about thirty clusters established in SEZs and numerous ones which began cooperation with SEZs. Recently, the majority

of clusters are the educational ones. In SEZs there are also logistics, ICT, automotive and aviation clusters and those related to renewable sources of energy. The least popular include: film, furniture, agricultural and food processing, health tourism, aerospace and satellite engineering clusters. Establishing clusters as initiatives which become part of the regional specialization provide favourable conditions for creating company networks which, in turn, mobilize business activity not only in the zone itself but also in its environment.

The conducted analysis also revealed various actions of SEZs within CSR. It is an important area in terms of regional development since it refers to various initiatives addressed to the society – business partners, inhabitants, and provided for the benefit of the environment. The studies conducted by the authors prove that in many zones they are implemented by managing authorities, entrepreneurs alone and collectively with the support of SEZ management board. They include, e.g. trainings for personnel, solutions for pregnant workers and young mothers, and also: support for local societies, including people in danger of social exclusion; revitalization of municipal facilities and renovation of historic buildings; support for sport, culture and art; investments regarding renewable sources of energy. As a result, in many regions social climate and perception of SEZs operations improve. Entrepreneurship arises as well as urge to develop professionally. Within CSR many initiatives refer to training the personnel for the region on various levels of education (lower-secondary, secondary and university levels). They refer mainly to professional training related to specializations developing in the regions. For the fourteen tested zones in each of them the authors observed such activities, e.g.: creating classes under the umbrella of SEZ and providing equipment for the related labs, (Kamieniogórska SEZ), organizing language courses for MSP employees from the region (Warmińsko-Mazurska SEZ), traineeships for school children and students, initiating establishing universities and their branches, K2 program (career, competence) (Katowicka SEZ).

SEZs in the Polish regions become also the centres of technology and innovation transfer, and centres of priority sectors support. The analysis revealed that they started cooperation with universities and research and development centres. They organize fora for cooperation and exchange of ideas, such as: „Silesia Automotive” Platform (Katowicka SEZ), Technology Transfer Platform (Mielecka and Tarnobrzaska SEZs) or Technological Incubator (Ślupska SEZ). The innovative ideas and economic enterprises are also supported by Science and Technology Parks established at SEZs, directing their offer to e.g. start-up enterprises. The parks render for them legal and business consultancy services, provide office area and infrastructure (e.g. research one).

## 5. Conclusions

The use and creative development of the concept of SEZs by Poland under transformation, over a number of years, brought positive results for the regional development. We can indicate: threefold increase in SEZs' area in Poland, creating over 200.000 new jobs, over 3200 issued permissions and over 100bn PLN in the value of completed investments. The Polish SEZs had also influence e.g. on creating regional business specializations, establishing clusters and the resulting outcome for the zone-related companies. Moreover, they implement numerous initiatives regarding CSR, in particular professional training of personnel for the purposes of local labour market. We also need to mention the role of zone management boards, as creators of those initiatives and the introduced changes in laws which affect the direction of SEZs development. They refer *inter alia* to subsequent tasks imposed on the Polish zone management boards; possibilities to include private land into SEZs or increase in their availability for SME. Using both general conditions of their functioning and local potential, the Polish SEZs are able to stand out from others. The results of their efforts already confirm their high standing in various categories in fDi Global Free Zones of the Year 2015 ranking. Katowicka SEZs – is the best in Europe; other Polish SEZs were rewarded e.g. for: infrastructure and broad spectrum of services for investors; significant share of SME; CSR policy and educational cluster. Rich experience resulting from the development of SEZs in Poland may undoubtedly constitute a value for other countries. The solutions applied in Poland cannot be transferred directly to them; they may rather become an inspiration and determine the desirable course of development.



## REFERENCES

- Act, (1994) - *Ustawa z dnia 20 października 1994r. o specjalnych strefach ekonomicznych* Dz.U. 1994 nr 123 poz. 600 (Act on SEZs)
- Akinci G.; Crittle J. (2008): *Special economic zones : performance, lessons learned, and implications for zone development*, Foreign Investment Advisory Service (FIAS) occasional paper. Washington, DC: World Bank, pp. 83, <http://documents.worldbank.org/curated/en/2008/04/9915888/special-economic-zone-performance-lessons-learned-implication-zone-development>, (accessed 18 February 2016)
- ESCAP, KMI (2005): *Free Trade Zone and Port Hinterland Development*, New York, [www.unescap.org/sites/default/pub\\_2377\\_fulltext.pdf](http://www.unescap.org/sites/default/pub_2377_fulltext.pdf), (accessed 17 February 2016)
- Farole T.; Akinci G. (Editors) (2011): *Special Economic Zones: Progress, Emerging Challenges, and Future Directions*. The World Bank, pp. 319, <https://openknowledge.worldbank.org/handle/10986/2341>, (accessed 3 February 2016)
- fDi (2015): *Global Free Zones of the Year-Winners*, October/November, pp. 12-37, <http://ksse.com.pl/rankingi,34>, (accessed 3 February 2016)
- KPMG, (2012): *Special Economic Zones. Edition 2012*, pp. 52, [kpmg.pl](http://kpmg.pl), (accessed 3 February 2016)
- KPMG, (2014): *20 years of Special Economic Zones in Poland, A Guide to SEZs*, pp. 60, [kpmg.pl](http://kpmg.pl), (accessed 10 February 2016)
- Miłaszewicz D., (2011): *Specjalne strefy ekonomiczne jako narzędzie modernizacji gospodarki*, Studia i Prace Wydziału Nauk Ekonomicznych i Zarządzania nr 22, Uniwersytet Szczeciński, pp. 7-34.
- Ministry of Economy (2005-2015) - Ministerstwo Gospodarki, (2005-2015): *Informacja o realizacji ustawy o specjalnych strefach ekonomicznych.*, Warszawa, (official reports for 1999-2014; first published in 2005), [me.gov.pl](http://me.gov.pl) (accessed 2 February 2016)
- Ministry of Economy (2009b) - Ministerstwo Gospodarki, (2009b): *Koncepcja rozwoju specjalnych stref ekonomicznych*, Warszawa, pp. 24, [me.gov.pl](http://me.gov.pl) (accessed 20 February 2016)
- Pastusiak R. et al., (2013): *Ocena efektywności funkcjonowania specjalnych stref ekonomicznych w Polsce część I*, Zakład Finansów Korporacji, Wydział Ekonomiczno-Socjologiczny, Uniwersytet Łódzki, pp. 58, [me.gov.pl](http://me.gov.pl) (accessed 8 February 2016)
- Pastusiak R. et al., (2014): *Ocena efektywności funkcjonowania specjalnych stref ekonomicznych w Polsce część II*, Zakład Finansów Korporacji, Wydział Ekonomiczno-Socjologiczny, Uniwersytet Łódzki, pp. 238, [me.gov.pl](http://me.gov.pl) (accessed 8 February 2016)
- Typa, M. (2013): *Specjalne strefy ekonomiczne w Polsce jako stymulator konkurencyjności regionów*, *Kwartalnik Nauk o Przedsiębiorstwie*, No 2, pp. 16-25.
- Zeng, Douglas Zhihua (2015): *Global Experiences with Special Economic Zones : Focus on China and Africa*, World Bank Group, Policy Research Working Paper; No. 7240, pp. 24 <https://openknowledge.worldbank.org/handle/10986/21854>, (accessed 18 February 2016)

**Kornelija Pavić, mag.ing,agr**

Association of Small Cheese Producers of Karlovac County "KORNI"

Svetonedeljska cesta 12, Brezje, Sveta Nedelja

Phone: +385 911885886

E-mail address: pavic.kornelija@gmail.com

**doc.dr.sc. Marijana Blažić**

Karlovac University of Applied Sciences

Trg J.J. Strossmayera 9, Karlovac

Phone: +385 917949573

Fax: +385 47843539

E-mail address: mblazic@vuka.hr

**Mateja Petračić, dipl.oec**

Karlovac University of Applied Sciences

Trg J.J. Strossmayera 9, Karlovac

Phone: +385 915137135

Fax: +385 47843539

E-mail address: mpetracic@vuka.hr

**IMPROVING THE PRODUCTION OF SMALL CHEESEMAKERS IN THE  
KARLOVAC COUNTY**

**UNAPREĐENJE PROIZVODNJE MALIH PROIZVOĐAČA SIRA U  
KARLOVAČKOJ ŽUPANIJI**

**ABSTRACT**

*The objective is to investigate and determine the need for the conduction of training small producers of dairy products in the Karlovac County. In the paper, the analysis of the opinions and attitudes of participants were conducted on course for profession milkman / maid - cheesemaker. The course was held as part of the project CHEESE SENSE - support to small cheese producers, whose resources are co-financed by the European Social Fund. The project was created by cooperation of actors from the public, private and civil sector, which together generate a synergistic effect in the local community. It is coordinated by the Karlovac University of Applied Sciences and its partners; Science school, Association of Small Cheese Producers of Karlovac County "KORNI", Regional office of the Employment Service, Advisory Service - subsidiary of Karlovac County and Karlovac County Tourist Board. The purpose of this study is to determine how much were participants satisfied with content of the course, how much course helped expand their knowledge and skills, and based on results of training, establish if course could be an example of good practice. The course encouraged participants to engage significantly more or further to dealing with dairy and cheese making, and thus contribute to economic growth and development of their place through the (self) employment, with the help of experts and colleagues. The course took place through 140 hours of instruction, of which 60 hours were intended for theory, the practice lasted the same time, and the rest was field work ie. family farms. For the purposes of the study, subjects filled out a questionnaire that contained questions about socio-economic factors, work experience and motivation for the participation on the course, contentment with the course and its entire contents. General scientific research methods were used in this paper; such as a table research, analysis, synthesis, compilations and for conducted primary research the method of descriptive statistics.*

**Keywords:** dairy, cheese making, self-employment, family farms

## SAŽETAK

Cilj rada je istražiti te utvrditi potrebu za provođenjem edukacije malih proizvođača mliječnih proizvoda na području Karlovačke županije. Uradu je provedena analiza mišljenja i stavova polaznika o radionici za zanimanje mljekar/ice – sirar/ice. Radionica se održala u sklopu projekta OKUSI SIRA - podrška malim proizvođačima sira, čija su sredstva sufinancirana iz Europskog socijalnog fonda. Projekt je nastao suradnjom aktera iz javnog, privatnog i civilnog sektora koji zajedničkim snagama ostvaruju sinergijski učinak u lokalnoj zajednici. Provođa ga Veleučilište u Karlovcu zajedno s partnerima; Prirodoslovnom školom, Udrugom malih sirara Karlovačke županije "KORNI", Područnim uredom Zavoda za zapošljavanje, podružnicom Savjetodavne službe Karlovačke županije i županijskom Turističkom zajednicom. Svrha istraživanja je utvrditi koliko su ispitanici zadovoljni radionicom, koliko im je ista pomogla proširiti znanja i vještine, te na temelju rezultata edukacije ustanoviti koliko drugima može poslužiti kao primjer dobre prakse. Radionica je potaknula polaznike da se, uz pomoć stručnjaka i kolega, znatno više ili dodatno angažiraju oko bavljenja mljekarstvom i sirarstvom, te na taj način doprinesu gospodarskom rastu i razvoju svojeg kraja kroz (samo)zapošljavanje. Radionica se odvijala kroz 140 sati nastave, od čega je 60 sati bilo namijenjeno teoriji, isto toliko je trajala praksa a ostatak je činio rad na terenu odnosno obiteljskim poljoprivrednim gospodarstvima. Za potrebe rada, ispitanici su ispunili anketni upitnik koji se sastajao od pitanja koja su utvrđivala socioekonomske čimbenike, radno iskustvo i motivaciju za odaziv na radionicu, zadovoljstvo radionicom i cjelokupnim sadržajem. U radu su korištene opće znanstvene metode poput istraživanja za stolom, analize, sinteze, kompilacije, a za provedeno primarno istraživanje korištena je metoda deskriptivne statistike.

**Ključne riječi:** mljekarstvo, sirarstvo, samozapošljavanje, obiteljska poljoprivredna gospodarstva

### 1. Introduction

When we are talking about the high social standards of a country and the satisfaction of its citizens, it is very important that it has a clearly defined and well-organized agricultural production, with the exact relations of all participants in the production process. If access to affordable and acceptable quality food is resolved, the whole society becomes richer. In addition, self-sufficiency in food production raises the level of independence in international integration, and it also strategically and economically strengthens each country.

Croatia has a long tradition in dairy and cheese making. Due to the advantage of natural conditions and tradition of production, for domestic products of milk and milk as the final product, there is a demand on domestic and foreign markets. A special role in this type of production plays family farms, because they are the foundation for creation of added value of product and maintaining high quality, which in industrial products can not be achieved.

The level of milk production in Croatia is far behind the EU member states. The circumstances of disadvantaged dairy industry are manifold, and are largely a consequence of the Homeland war, underdeveloped agrarian structure, small production capacities, unfavorable results of reconstruction and privatization of the large number of small family farms that produce only 6,000 liters of milk per household. Demand for annual consumption of milk and dairy products Croatia settles by its own production in the amount of 80%, so in 2014 it is produced 522.7 million kilograms of fresh raw milk. The share of imports of dairy products is on a boom; in 2014 Croatia imported 183 million kilograms of milk products (<http://www.cromilk.hr/hr/mljekarstvo/hrvatska/9>).

By conducted research of improving the production of small cheesemakers in Karlovac County are achieved the prerequisites for the successful promotion and engagement in the dairy industry and

cheese making, and has been established cooperation of actors from the public, private and civil sector. The course especially wanted to point out how important it is to promote equal opportunities, sustainable development and reduction of regional disparities.

## 2. Geographical and economic review of Karlovac County

Karlovac County is with the help of its traffic, transit and geostrategic position one of the most important Croatian counties. It borders with two countries: the Republic of Slovenia and the Republic of Bosnia and Herzegovina, and is surrounded by four counties: Lika - Senj, Primorje - Gorski Kotar, Sisak - Moslavina and Zagreb. There are 5 cities on its territory, 17 municipalities and 649 settlements. According to the census of population in 2011, in the County lives 128 899 inhabitants (35.55/km<sup>2</sup>) on an area of 3,626 square kilometers. Most inhabitants lives in the cities (70%), with an emphasis on the city of Karlovac, while 30% of the population residing in municipalities.

The basic economic activities are manufacturing industry, construction and trade. According to data from 2010, these activities generate 85.1% of total revenue, 79.4% of the profit economy, employ 78% of the total number of employees, and all those results achieved 66.5% of the total number of entrepreneurs. Total exports of County in Croatian exports is 1.8% and imports 2.7%. Export-import ratio for the County is 68%, while on the Croatian level 43.3%.

*Table 1 The main economic activities of Karlovac County*

<b>Economic activity</b>	<b>Number of entrepreneurs (%)</b>	<b>Number of employees (%)</b>	<b>Total revenue (%)</b>	<b>Profit (%)</b>
<b>Manufacturing industry</b>	21,3	51,5	46,8	47,8
<b>Trade</b>	37,7	16,4	25,9	17,8
<b>Construction</b>	7,5	10,1	12,4	13,8
<b>Total:</b>	<b>66,5</b>	<b>78,0</b>	<b>85,1</b>	<b>79,4</b>
<b>Other activities</b>	<b>33,5</b>	<b>22,0</b>	<b>14,9</b>	<b>20,6</b>

*Source: Web site of the Karlovac County, <http://www.kazup.hr/o-zupaniji/gospodarstvo.html>, accessed 3 March 2016.*

Karlovac County labor productivity is highlighted in production of food and beverages in which did achieved the highest revenue in 2008., but also in retail trade, production of non-metallic mineral products and plastics production (Metode analize obrazovnih potreba za gospodarski razvoj: Karlovačka županija, 2011.).

The priorities of economic development are based on existing resources, excellent geographical position and natural advantages which are still underutilized. Unused resources are reflected in the lack of connection between agricultural production, forest resources and manufacturing industry. Considering tradition, qualified staff and advantage of location, it is necessary to continue to develop metal and textile industry through marketing, training and introduction of new products. It is also necessary to improve business networking of entrepreneurs, particular small companies with large.

In the agricultural census from 2003, agricultural land is owned by 19 171 households. From the total amount of agricultural land (33,523 hectare), 13,845 hectares (41%) is unused. In the Register of family farms is about 6 200 farms.

Available agricultural land has a relatively high value and it is ecologically preserved, with a capacity to produce high quality food. Cultivated land gives relatively low yields due to the technologies used, and the products are mainly wheat, corn and other cereals.

The most common problems in agriculture are unresolved property relations, fragmented estates, financing of production, distribution, marketing and storage of products. Despite these obstacles,

agriculture in Karlovac County is an important source of income for its inhabitants. Processing on the farms includes mainly production of wine, cheese, saur cabbage and traditional alcoholic drink "rakija".

The market for agricultural products is unorganized, most products do not have customer in advance, with the exception in the sector of dairy industry. About 10 agricultural cooperatives are not directed on further marketing or processing their products. In the area of County there are 20 associations of farmers (Regionalni operativni program 2005. - 2012., 2010).

## 2.1 Status of the dairy and cheese making in Croatia

Croatia in the dairy and cheese production lags behind the EU member states. However, on the other hand, the quality of the milk is first extra class for 97% of milk, and individual cheeses are often labeled as the best in the world in different categories.

Dairy production has an important role in Croatian agriculture. It generates about 25% of total revenues, it is the largest sub-sector, and 95% of dairy cows are kept on family farms. Most prevalent in consumption is cow (drinking) milk (65.6%), fermented products (11.3%), cheese (4.5%) and other products (13.58%). In March 2015. the national quotas for milk in the EU are abolished, which ultimately led to an increase of milk production at EU level (<http://www.cromilk.hr/hr/mljekarstvo/hrvatska/9>).

Cheese production is one of the oldest methods of preserving easily perishable milk, which is naturally acidic and curd. The cheeses are the most important and largest group of dairy products. The art of making cheese goes back into the past and has a long tradition of manufacturing. Production of cheeses gradually developed and improved, and a special contribution has been made in the Middle Ages when it was created largest number of species and varieties of cheeses.

In agriculture of Karlovac County, the most important income basis is milk production with redeemed 28,884,537 liters in 2003. Marketability of milk is constantly increasing. According to the agricultural census in 2003., the total number of dairy cows was 12 091 owned by 5 261 farms. One dairy cow holds 2 397 farms, and the number of households with more than 10 cows is 47. From 5 to 10 cows holds only 450 farms.

The County has 85 breeders that holds Holstein breed, with about 900 cows under milk control (Kasunić B., 2007).

**Table 2** SWOT analysis of the dairy and cheese making in Karlovac County

<p><b>STRENGTHS</b></p> <ul style="list-style-type: none"> <li>• Long tradition of dairy and cheese making</li> <li>• Available natural resources</li> <li>• Favorable geographical location, good traffic connection with Europe</li> <li>• High-quality of agricultural land for the production of animal feed and animal farming</li> <li>• Croatian consumers are traditionally oriented to domestic products</li> <li>• Nutritional and medicinal properties of milk and milk products</li> <li>• Significant grain production for concentrate of green fodder</li> <li>• Existence of expert support to producers</li> <li>• Increased demand for products during the tourist season</li> </ul>	<p><b>WEAKNESSES:</b></p> <ul style="list-style-type: none"> <li>• Fragmented agricultural land</li> <li>• Unresolved property relations</li> <li>• Incomplete mine clearance</li> <li>• Old agricultural population</li> <li>• High investment costs needed for the construction of modern facilities for animal housing, dairies, buying machinery and manufacturing technology</li> <li>• Low level of education of individual farmers</li> <li>• The lack of associations of small producers</li> <li>• Lack of compliance with environmental standards and hygiene standards</li> <li>• Insufficient marketing for products</li> <li>• Poor cooperation, horizontal and vertical, among competent state institutions</li> </ul>
<p><b>OPPORTUNITIES:</b></p> <ul style="list-style-type: none"> <li>• Further exploitation of natural resources to increase agricultural development</li> <li>• Access to national and EU funds and programs</li> <li>• Large unused area for livestock (meadows and</li> </ul>	<p><b>THREATS:</b></p> <ul style="list-style-type: none"> <li>• Black market and underground economy are not stopped</li> <li>• Increased pressure on the environment due to pollution with manure</li> </ul>

<ul style="list-style-type: none"> <li>• pastures)</li> <li>• Potential for increasing competitiveness and improving the quality of dairy products</li> <li>• Expected increase in domestic consumption of dairy products</li> <li>• Potential for further diversification of products and a broader range of offer to consumers</li> <li>• Self-employment</li> <li>• Linking with other sectors, such as tourism</li> <li>• Potential for sustainability of small producers in accordance with EU standards</li> <li>• Regional recognize dairy products (cheese)</li> <li>• Available professional training for dairy farmers and cheesemakers</li> </ul>	<ul style="list-style-type: none"> <li>• Emergence of diseases that can affect on domestic consumption and export</li> <li>• Offer at lower prices from foreign markets</li> <li>• The slow process of land consolidation</li> <li>• The uncertainty of milk prices</li> <li>• Because of higher yields per cow and the restructuring of the sector, number of cows is lower</li> <li>• Distrust of producers in systems of organization (associations, cooperatives)</li> <li>• Slow demining of mined agricultural land</li> <li>• Lack of funds for the construction of dairy farms</li> <li>• Insufficient knowledge of producers</li> <li>• Poor development of the necessary infrastructure</li> <li>• Poor marketing strategy</li> </ul>
--	---

*Source: Authors*

### 3. The results of the survey research

The research is based on an analysis of primary and secondary data. Study was conducted using the survey method. The basic criterion in selection of participants for course was the status of the unemployed. After the test, data were analyzed by SPSS statistical software. The study involved 25 participants who attended the course. All respondents are living in the Karlovac County. The women participated on course with a share of 64%.

**Table 3** Age structure of respondents

Age group	Frequency	Percentage	Cumulative percentage
Under 30 years	3	12,0	12,0
From 30 to 50 years	18	72,0	84,0
From 51 to 60 years	4	16,0	100,0
<b>Total:</b>	25	100,0	

*Source: Research by authors*

Age structure is consisted of three categories of which the most common group is from 31 to 50 years of age (72%), group of respondents who are from 51 to 60 years of age is 16% and the rest are respondents under 30 years (12%).

In the structure of education, most respondents has secondary education (72%), less shares make respondents with a university degree (12%), elementary education (4%), master's degree (4%) and specialist postgraduate studies (4%).

More than a third of respondents have a household with three, four or five members, while a minority are households that have one or two members, and those households that have more than five members.

Motivation of respondents for attending a course is desire to learn to produce different types of cheese and milk processing, to expand their knowledge and skills, create the possibility of self-employment and employment in the dairy, on the basis of experience in the dairy industry to expand their operations in cheese making and for the opportunity to apply for tenders from the Rural Development Programme.

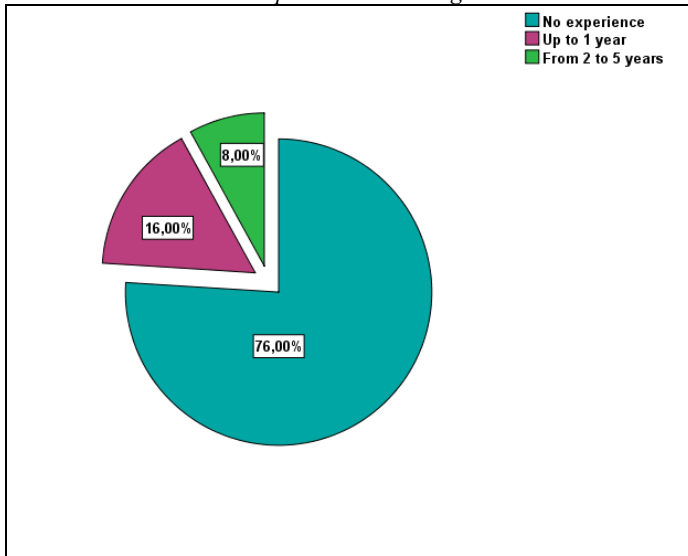
For course participants find out through relatives and friends (36%), the media (24%), through the Croatian Employment Service (20%), over the Karlovac University of Applied Sciences(16%) and through Association of small cheese producers of Karlovac County "KORNI" (4%).

The majority of respondents did not have any objections or recommendations regarding to course (64%),12% of respondents saidthat the course exceeded their expectations,that courseis educational thoughts 8% of respondents. On the other hand, the respondents think that there should be more

practical training and theory with examples (8%) and examples of making various types of cheeses in the household (4%).

Experience in the dairy industry does not have the majority of respondents (48%), experience from 11 to 15 years has 20% of respondents, up to 1 year experience has 12% of respondents, from 2 to 5 years has 8% of respondents, from 21 to 25 years has 8% of respondents and from 6 to 10 years has 4% of respondents.

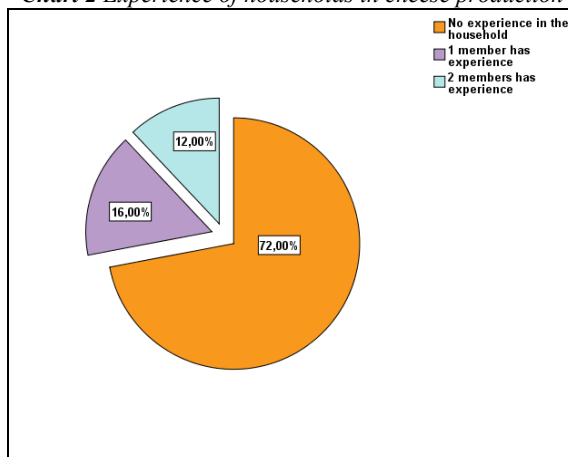
**Chart 1** Experience in making cheese



Source: Research by authors

Experience in cheese production has a majority of respondents (76%), up to one year of experience has 16% of respondents, from 2 to 5 years has 8% of respondents.

**Chart 2** Experience of households in cheese production



Source: Research by authors

Household members mostly do not produce cheese (72%), households where one member is engaged in cheese making makes share of 16%, and household where there are two members in cheese making makes share of 12%.

Household members on farms generally do not work in dairy industry (48%), households where two members are engaged in the dairy industry makes share of 24%, households where four members are engaged in the dairy industry makes share of 12%, and the rest are households where one or three members are engaged in the dairy industry.

### Review of satisfaction with course

**Table 4** Evaluation of satisfaction of participants with course

Satisfaction with course	Average grade
How much are you satisfied with the organization?	4,72
How much are you satisfied with the speakers?	4,84
How much are you satisfied with the topics?	4,72
How much are you satisfied with the presentations?	4,68
How much are you satisfied with the quality of discussion?	4,76
How much are you satisfied with exercise?	4,84
How much is course useful for your future work?	4,60
How big is applicability of the content of the course in the practice?	4,64
Would you participated again on similar course?	4,92

*Source: Research by authors*

The study used a Likert scale where 1 means the lowest ie. the worst grade and grade 5 is the best score. According to Table 3, respondents would be happy to participate again in a similar course (average grade 4.92), they were very satisfied with the trainers and exercise (4.84), the quality of the debate (4.76), organization and themes (4.72), and were slightly less satisfied with the presentations (4.68), the applicability of the content of the course in the practice (4.64) and benefits for future work (4.60).

### Review of satisfaction with content

**Table 5** Evaluation of satisfaction of participants with content

Satisfaction with the content of course	Average grade
<b>I. Professional section</b>	4,68
Animal hygiene	4,68
Reproduction of cattle	4,60
Metabolic diseases	4,60
Barns for cows	4,60
Nutrition and forage crops	4,80
Machines for forage harvesting	4,60
Hygienic milk production	4,88
Milking cows	4,72
Raw milk	4,80
Microbiology of milk	4,72
Fermented milk	4,72
Cheese making	4,80
Steps to the processing and sale of milk and dairy products from own raw materials	4,76
Labelling of milk, milk products, cheese and cheese products	4,64
Product traceability	4,72
<b>II. Computer work</b>	4,60
Introduction	4,52
History	4,48
Present	4,56



E-mail	4,60
Internet address (web address)	4,64
Making of electronic address (e - adress)	4,56
Searching of the Internet	4,56
Searching tenders	4,52
<b>I. The basics of protection at work, fire protection and first aid</b>	4,72
Introduction to protection at work	4,72
Workspace and work environment	4,72
Hygiene at work and professional illnesses	4,68
Fire protection	4,72
Personal protective equipment	4,64
Nutrition and diseases of addiction	4,68
The basics of first aid	4,60
The types and extent of danger	4,64

*Source: Research by authors*

According to Table 4, respondents are most satisfied with topics: hygienic milk production (4.88), nutrition and forage crops (4.80), raw milk (4.80), cheese making (4.80), steps to the processing and sale of milk and dairy products from own raw materials (4.76), milking cows (4.72), microbiology of milk (4.72), fermented milk (4.72), product traceability (4.72), an introduction to protection at work (4.72), workspace and working environment (4.72), fire protection (4.72), animal hygiene (4.68), reproduction of cattle (4.68), hygiene at work and professional illnesses (4.68).

#### 4. Conclusion

Karlovac County do not produce sufficient quantities of milk and milk products. However, the dairy and cheese represent great potential for development of rural areas. The benefits of this production are reflected in the preservation of long-standing tradition with implementing modernization in the production, sustainability, self-employment, association of producers and ultimately the growth and development of rural areas. Family farms are the main drivers of this development and are key factor for achieving positive results in the production of milk and cheese. The research confirms that our trainees are interested for further acquisition of knowledge and skills so we recommend implementation of similar course in other counties.

In the end we can conclude that, since this is a sector where our comparative advantages are over the average of other countries, the tendency of the food supply should be a priority of agricultural policy.

#### REFERENCES

Cromilk - mljekarstvo (2015.): <http://www.cromilk.hr/hr/mljekarstvo/hrvatska/9> (accessed 25 February 2016)

Državni zavod za statistiku; Županije, površina, stanovništvo, gradovi, općine i naselja, popis 2011.: [http://www.dzs.hr/Hrv/censuses/census2011/results/htm/H02\\_02/H02\\_02.html](http://www.dzs.hr/Hrv/censuses/census2011/results/htm/H02_02/H02_02.html) (accessed 27 February 2016)

Karlovačka županija u riječi i slici (2011.): [https://www.hgk.hr/wp-content/blogs.dir/1/files\\_mf/Karlovačka%20županija%20u%20riječima%20i%20slici.pdf](https://www.hgk.hr/wp-content/blogs.dir/1/files_mf/Karlovačka%20županija%20u%20riječima%20i%20slici.pdf) (accessed 07 March 2016)

Kasunić B. (2007): *Osnovana Udruga hrvatskih uzgajivača holstein goveda u Karlovačkoj županiji*: <http://www.savjetodavna.hr/vijesti/8/1031/osnovana-udruga-hrvatskih-uzgajivaca-holstein-goveda-u-karlovačkoj-zupaniji/> (accessed 15 March 2016)

Regionalna mreža lokalnih obrazovnih ustanova; *Metode analize obrazovnih potreba za gospodarski razvoj: Karlovačka županija* (2011.): [http://www.asoo.hr/UserDocsImages/projekti/mreza/County\\_HR/Karlovačka.pdf](http://www.asoo.hr/UserDocsImages/projekti/mreza/County_HR/Karlovačka.pdf) (accessed 11 March 2016)

Regionalni operativni program 2005. – 2012. (2010.): <http://www.kazup.hr/images/dokumenti/rop.pdf> (accessed 03 March 2016)

Web stranice Karlovačke županije; *Pozicija gospodarstva Karlovačke županije u korelaciji s ostalim Županijama* (2010.): <http://www.kazup.hr/o-zupaniji/gospodarstvo.html> (accessed 27 February 2016)

**Tunjica Petrašević, PhD**

Chair of European Law, Faculty of Law Osijek, Josip Juraj Strossmayer University of Osijek  
Stjepana Radića 13

Phone: +38531224500 Fax: +38531224540

E-mail address: tpetrase@pravos.hr

**Dunja Duić, PhD, LL.M (Ghent)**

Chair of European Law, Faculty of Law Osijek, Josip Juraj Strossmayer University of Osijek  
Stjepana Radića 13

Phone: +38531224500 Fax: +38531224540

E-mail address: dduic@pravos.hr

**REPRESENTATION OF THE REGIONS IN THE DECISION-MAKING  
PROCESS IN THE EU****ZASTUPLJENOST REGIJA U PROCESU DONOŠENJA ODLUKA U  
EUROPSKOJ UNIJI****ABSTRACT**

*The aim of this paper is to give a look at the possibilities that the regions have in the framework of the European Union through the role of the Committee of the Regions (CoR). The Committee of the Regions (CoR) is an EU advisory body composed of locally and regionally elected representatives coming from 28 Member States. Although its powers are relatively limited, the Committee of the Regions can provide input in the EU legislative process and has had an important role in the safeguarding of subsidiarity from the entry into force of the Lisbon Treaty. The European Parliament, the European Commission and the Council of the EU must consult the CoR when drawing up legislation on matters concerning local and regional government. If they fail to do so, the CoR can bring a case before the CJEU (an action for annulment). Once the CoR receives a legislative proposal, it adopts an opinion and then forwards it to relevant EU institutions.*

*Bearing in mind the fact that from the entering into force of the Lisbon Treaty the CoR as an advisory body has had a legal mechanism (an action for annulment) to control the EU decision-makers, this paper will analyze the existing practice of the CoR in this field. This paper will assess if the EU institutions are respecting the obligation to consult the CoR when drawing up legislation on matters concerning regions. Is the CoR using its right for the action for annulment? What is the impact of the CoR opinions both on the matters of legislative proposal and on its own initiative? Based on the results of the analysis, this paper will suggest further legal solutions from which regions can benefit and subsidiarity can be safeguarded. Respectively, conclusions will contribute to further regional development, decentralization and subsidiarity in the EU regional framework.*

**Keywords:** region, Committee of the Regions, European Union, subsidiarity

**SAŽETAK**

*Cilj ovog rada je ukazati na mogućnosti koje regije imaju u okviru Europske unije kroz ulogu Odbora regija (OR). Odbora regija je savjetodavno tijelo Europske unije koje čine lokalno i regionalno izabrani predstavnici koji dolaze iz 28 zemalja članica. Iako su njegove ovlasti*

*relativno ograničene, Odbor regija ima ovlast doprinijeti zakonodavnom procesu Europske unije i ima važnu ulogu u očuvanju supsidijarnosti. Europski parlament, Europska komisija i Vijeće EU dužni su konzultirati se s Odborom regija pri izradi zakonodavstva koje se odnosi na pitanja lokalne i regionalne samouprave. Ako to ne učine, Odbor regija može pokrenuti postupak za poništenje akta pred Sudom EU. Kada se Odboru regija dostavi zakonodavni prijedlog, on usvaja mišljenje koje zatimprosljeđuje relevantnim institucijama EU-a.*

*Imajući u vidu činjenicu da od stupanja na snagu Lisabonskog ugovora Odbor regija kao savjetodavno tijelo ima pravni mehanizam kontrole zakonodavnog procesa u Europskoj uniji, u radu će se analizirati postojeća praksa Odbora regija u ovom području. U radu će se istražiti poštuju li institucije EU obvezu konzultiranja s Odborom regija pri izradi propisa o pitanjima koja se odnose regije? I konačno, u radu će se procjenjivati koji su pravni učinci mišljenja koje donosi Odbora regija. Na temelju rezultata u zaključku bit će predložena daljnja zakonodavna rješenja od kojih regije mogu imati koristi i koja pridonose jačanju supsidijarnosti. Cilj je rada pridonijeti daljnjem regionalnog razvoju, decentralizaciji i supsidijarnosti u regionalnom okviru EU.*

**Ključne riječi:** Regija, Odbor regija, Europska unija, supsidijarnost

## **1. Introduction**

The aim of this paper is to examine the possibilities that the regions have within the EU framework through the role of the Committee of the Regions (CoR) in the legislative process. According to the Treaty, the CoR is an advisory body of the Union comprised of locally and regionally elected representatives of the 28 Member States. Although its powers are relatively limited, the CoR has the authority to contribute to the legislative process of the EU and has an important role in the safeguarding of subsidiarity. The European Parliament, the European Commission and the Council of the EU must consult the CoR upon drawing up legislation concerning local and regional government matters. If they fail to do so, the CoR can bring a case before the CJEU (an action for annulment). Once the CoR receives a legislative proposal, it adopts an opinion and then forwards it to relevant EU institutions. The first chapter shall describe the Committee of Regions and its role in the institutional structure of the EU. In this context, the chapter shall examine the development of the regional policy of the EU and the establishing of the CoR as well as the composition, competence and structure of the Committee. The second chapter shall discuss the role of the CoR in the controlling of the application of the principle of subsidiarity along with annual reports of the CoR that will be analyzed in this context. The third chapter shall analyze actions for annulment of EU acts – a means the Lisbon Treaty put in the hands of the CoR. Based on the results, the conclusion shall propose solutions that the regions can benefit from and that contribute to the strengthening of subsidiarity.

## **2. The Committee of the Regions and Its Role in the EU**

From the very beginning of European integration there have been social and economic disparities between some regions and it is necessary to find certain mitigation mechanisms. This led to the development of the regional policy and the establishing of the so-called Structural Funds that would reduce regional disparities by way of financial aid (Đulabić, 2006, 158) (Wagstaff, 2009). Regional policy plays an important role even today and its aim is to achieve a harmonious, balanced and sustainable development and strengthening of economic and social cohesion of the Union. The most important body for regional

representation of the regions is the Committee of the Regions (hereinafter: CoR) that represents the interests of local and regional authorities at the European level and that was established in 1992 by the Maastricht Treaty. The establishment of the Committee of the Regions was to solve two very important issues. Firstly, around three quarters of European legislation is implemented at the local or regional level, so it is only logical that local and regional authorities want to and should have a vote in the passing of new European laws. Thus the representation of the regions of Member States at the EU level was ensured. Secondly, there was concern that the development of the Union would cause the public to be more and more excluded from this development and that the citizens would become alienated from the decision-making process on the EU level. The Committee of the Regions should bridge this large gap.

The Treaty on the Functioning of the European Union (TFEU) in its Chapter 3 "The Union's advisory bodies" prescribes the composition, structure and competence of the Committee of the Regions and of the Economic and Social Committee (Art. 300-308 TFEU). The Committee of the Regions is comprised of local and regional bodies' representatives who either have electoral mandate in the respective regional or local body or are politically accountable to the elected assembly. Members are not bound by their national mandates and act completely independently in the performance of their duties in the general interest of the European Union. Economic, social and demographic changes in the Union are taken into account in the appointing of representatives. Representatives as well as their deputies are appointed for a term of five years. The number of members cannot exceed 350 (Piattoni, 2014, 176-215).

As regards the internal structure, the Committee of the Regions elects the President and Bureau from among its members for a term of two and a half years. In addition, the Committee structures its work by means of six thematic commissions that specialize in different policy areas and are responsible for the support and drafting of opinions and resolutions that are then submitted for adoption to the Plenary Assembly. Currently, the Commissions of the CoR include: Citizenship, Governance, Institutional Affairs and External Affairs (CIVEX); Territorial Cohesion Policy (COTER); Economic and Social Policy (ECOS); Education, Youth, Culture and Research (EDUC); Environment, Climate Change and Energy (ENVE); Natural Resources (NAT); Temporary ad hoc Commission on EU budget; Financial and Administrative Affairs (CFAA). Members of the CoR sit on political groups, but also meet in national delegations to discuss issues through the prism of the national position. The Committee of the Regions is assisted by the General Secretariat, which is located in Brussels, as is the Committee itself (Piattoni, 2015, 7-57). The Committee of the Regions should by all means be considered a multi-dimensional body that brings national and regional influence to the EU legislation relating to the supranational level (Warleigh, 1990).

The Treaty itself defines the Committee of the Regions as an advisory body and its powers reflect this role. Its main function is to ensure the legally non-binding opinion in the legislative process. It is therefore necessary to point out primarily that the European Parliament, the Commission and the Council are **obligated to consult** the Committee of the Regions if it is prescribed by the Treaty (TFEU) itself. This means that the CoR has the possibility to express its opinion on the issues relating to education, vocational training and youth (Art. 165 TFEU), culture (Art. 167 TFEU), public health (Art. 168 TFEU), trans-European transport, telecommunications and energy infrastructures (Art. 172 TFEU) as well as economic and social cohesion (Art. 175, 177, 178 TFEU).

It is necessary to stress that there is a fair number of EU policies that do not have a significant regional dimension and that do not require consulting the Committee of the Regions (e.g.

market or industry policy) (Chalmers, 2010, 90). The Commission, the European Parliament and the Council may also consult the CoR on their own will on any topic. This is the so-called **optional consultation**. The consulting of the CoR be it obligatory or optional, must take place in the deadline (which is at least one month) that is determined by the "consulting" institution. In case the CoR does not issue an opinion within that period, the respective institution may proceed with the decision-making process/adopting of the act. However, the power of the EU to postpone is not limitless: as the CJEU pointed out, institutions are bound by the principle of sincere cooperation that governs relations between Member States and the Community institutions (Case C-65/93 Parliament v Council [1995] ECR I-00643, par. 23). And lastly, the Committee of the Regions may issue an opinion **on its own initiative** when deemed necessary. Seeing as how the Lisbon Treaty has entered into force, the CoR may bring action for annulment of an act to the CJEU (Duić, Mohay, Petrašević, 2010, 21).

In addition to having rather "modest" powers, the CoR is also faced with internal challenges in that it has to bring together and unite different interests of members who come from not only different Member States but also different regions within the individual States. Furthermore, the regions within the same State may have conflicting interests. The fact that the members of the CoR are not directly elected representatives affects its democratic legitimacy. However, the opinion of the CoR is of a political character and in their decision-making, institutions of the EU should thus take into account the Committee of the Regions as one of the actors in the political arena EU. The European Commission traditionally supports the regional representation in the European political process. Since the CoR has been established, both bodies have been actively communicating and cooperating: the interest and the support of the Commission stems from the striving to achieve better implementation of EU policies at the national and sub-national level and the willingness of the Commission to include proposals and initiatives coming from European regions. The cooperation of the Commission and the Committee of the Regions is defined by the Protocol on their cooperation (Christiansen, Lintner, 2005, 8).

In the last few years, a new area of activity of the CoR has been brought to the fore: the role of the CoR in ensuring the principle of subsidiarity. The following chapter shall analyze the attitude of the CoR toward subsidiarity as a whole and give an overview of the right of the CoR to bring actions for annulment before the Court of Justice of the EU.

### **3. The Committee of the Regions and the Principle of Subsidiarity**

The principle of subsidiarity means that decisions should be made at a level as close as possible to the citizens. The Maastricht Treaty made it one of the principles the EU should take into account when exercising its legislative powers (Tridimas, 2006, 183-193). Seeing as how the CoR gathers representatives or officers that act on the level that is closest to the citizens, it was logical to entrust the CoR with the control of the principle of subsidiarity. Immediately after its establishment, the CoR recognized this role and declared itself the "guardian" of subsidiarity (Opinion of the CoR, CdR 302/98 fin) OJ 1999 C 198/7). However, it was not until the Lisbon Treaty that the CoR was made the "guardian" of the principle of subsidiarity. The Lisbon Treaty placed great focus on the further democratization of the EU, on the strengthening of the role of national parliaments – and in line with these objectives – the strengthening of the principle of subsidiarity, thereby significantly changing the Protocol on the application of the principles of subsidiarity and proportionality as annexed to the Treaties. Article 2 to Protocol (No 2) on the application of the principles of subsidiarity and proportionality requires that – prior to proposing legislative acts – the Commission carry out extensive consultations and that such consultations, where appropriate, take into account the

regional and local dimension of the proposed measures. In cases of exceptional urgency, the Commission may omit such extensive consultation, but it must state the grounds for its decision in its proposal. The European Commission is obligated to submit to the European Council, the European Parliament, the Council of the European Union and the national parliaments an annual report on the application of Art 5 TEU. In accordance with Art 9 to Protocol (No 2), this report is then forwarded to the Economic and Social Committee and the Committee of the Regions.

In response to the newly gained authority, the CoR first amended its 2010 and then the 2014 Rules of Procedure to ensure that all its opinions refer to the principle of subsidiarity. The CoR also established the "**Subsidiarity Monitoring Network**" (hereinafter: SMN) even before entry into force of the Lisbon Treaty amendments. The aim of the SMN is to ensure the exchange of information between local and regional authorities in the EU and the institutions of the Union in terms of documents and legislative proposals of the Commission that may have an impact on local and regional authorities. Through SMN, local and regional authorities can express their views in terms of the legislative proposals in various stages of the (pre-)legislative process to avoid conflict in terms of compliance with the principle of subsidiarity, thereby giving the European Commission direct access to these positions. The most important task of the SMN is certainly the drawing up of the Subsidiarity Annual Report (Ritzel, Ruttloff, Linhart, 2013, 747). The report of the CoR on the application of the principle of subsidiarity will be analyzed below.

### 3.1. Analysis of Subsidiarity Annual Reports

Subsidiarity Annual Reports provide an overview of subsidiarity monitoring activities of the CoR for the previous year. They are published in April and included in the Commission's Annual Report on subsidiarity, which is published in July or August. Reports are created by the Subsidiarity Monitoring Network and presented to the Bureau, which adopts the Report on their regular meetings (Subsidiarity Work Programme CoR 2336/2012). All Subsidiarity Annual Reports are more or less of similar structure: introduction, subsidiarity monitoring strategy or work plan, political governance and CoR tools for subsidiarity monitoring, a brief analysis of subsidiarity in CoR opinions, detailed tables containing all opinions. Lastly, they contain analyses of the opinions which are highlighted for their relevance from a subsidiarity point of view: some have raised concerns with regard to compliance with the subsidiarity and proportionality principles or have even invoked actual infringements (Subsidiarity Annual Report 2012, 10). The criteria for highlighting some Opinions are not clearly indicated; they are only descriptive and raise concern that some of the Opinions are unjustifiably neglected. Nevertheless, the most problematic issue with this system of the Report adaptation is evident in the fact that reports are adopted more than half a year after the analyzed period. For example, the Subsidiarity Annual Report for 2015 will be presented at the end of April and adopted by the Bureau in July. For this reason, the 2016 Report that will include the 2015 assessments of subsidiarity will not be covered in this paper.

*Table 1 Number of CoR Opinions per year*

Year	Number of opinions	Number of opinions on legislative proposals	Number of opinions containing an explicit reference to subsidiarity	Number of opinions - assessment of compliance with subsidiarity
2015 (1/1/2014 to	57	14	8	12

Year	Number of opinions	Number of opinions on legislative proposals	Number of opinions containing an explicit reference to subsidiarity	Number of opinions - assessment of compliance with subsidiarity
31/12/ 2014)				
2014 (1/1 2013 to 31/12/ 2013)	72	19	52	26
2013(1/1/2012 to 31/12/ 2012	71	42	49	31
2012(1/12011 to 31/12/ 2011)	62	10	51	14
2011 (10/1/2010 to 31/12/2010)	45	4	32	8

Source : Subsidiarity Annual Reports

<https://portal.cor.europa.eu/subsidiarity/Publications/Pages/Publicationsandstudies-.aspx> (March 23, 2016)

It is clear from the above that following a continuous increase in the number of opinions between 2010 and 2014, the number of opinions declined rapidly in 2014. The reason for this lies in the changing of the Rules of Procedure that narrow the thus-fargreater power of the CoR by excluding the right of the CoR to issue opinions on acts that fall under exclusive field of competence of the Union. Rule 55(2) of the new Rules of Procedure of the CoR states that "Committee opinions on proposals for legislative acts in areas not falling within the Union's exclusive field of competence shall express a view on the proposal's compliance with the principles of the subsidiarity and proportionality principles. Other Committee opinions may refer, if necessary, to the application of the principles of the subsidiarity and proportionality principles whenever appropriate." It is also clear that 2012 was the most active year in terms of the total number of opinions, the number of opinionson legislative procedures and the number of opinions containing anassessment of compliance with subsidiarity principle.

**Table 2** Number of opinions containing an assessment of compliance with subsidiarity principle (compliance or non-compliance with subsidiarity)

Year	Number of opinions - assessment of compliance with subsidiarity	Percentage in total number of opinions	Compliance	Non-compliance	Unknown
2015 (1/1/2014 to 31/12/ 2014)	12	21,05 %	9	3	0
2014 (1/1 2013 to 31/12/ 2013)	26	36,11 %	23	1	2
2013(1/1/2012 to 31/12/ 2012	31	43,66 %	19	6	6
2012(1/12011 to	14	22,58 %	14	0	0



Year	Number of opinions - assessment of compliance with subsidiarity	Percentage in total number of opinions	Compliance	Non-compliance	Unknown
31/12/ 2011)					
2011 (10/1/2010 to 31/12/2010)	8	17, 77 %	0	0	8

Source : Subsidiarity Annual Reports

<https://portal.cor.europa.eu/subsidiarity/Publications/Pages/Publicationsandstudies-.aspx> (March 23, 2016)

The analysis shall focus on the number of opinions containing an assessment of compliance with the subsidiarity principle. The highest percentage of opinions containing an assessment of compliance with the subsidiarity principle was in the 2012 Report and the lowest, as expected, in the first year of the adoption of the Opinion. However, the trend of a decreasing number of opinions containing an assessment of compliance with the subsidiarity principle is evident, and so the number of these opinions in 2014 is half of that in 2012.

Additional emphasis shall be put on the analysis of the number of opinions that fall under Compliance and Non-Compliance. Also, the category Unknown as an additional one was required since there are certain opinions for which there is no information on whether they are or are not in compliance with the subsidiarity principle even though they have been categorized as "opinions containing an assessment of compliance with subsidiarity" based on the existing documentation from Subsidiarity Annual Reports.

Highlighted here is the 2012 Report to be further analyzed, in which it says: "six of the opinions which did not comply with Rule 51(2) of Rules or Procedure were adopted on legislative proposals in policy fields where consultation of the CoR is mandatory, i.e. proposals which meet the formal criteria for a CoR judicial action for annulment on subsidiarity grounds (Subsidiarity Annual Report 2012, 8)".

#### 4. The Committee of the Regions and Actions for Annulment

The action for annulment is a legal procedure brought before the CJEU of the European Union (CJEU). This action enables the Court to review the legality of acts adopted by the European institutions, bodies, offices or organizations. Thus, the Court shall annul the act concerned if it is judged to be contrary to European Union (EU) law. In accordance with Article 263, The Court of Auditors, the European Central Bank and the Committee of the Regions may bring actions against European acts, which, in their view, undermine their prerogatives. Moreover, Article 2 of Protocol (No 2) provides that "the Committee of the Regions may bring actions for annulment against legislative acts for the adoption of which the Treaty on the Functioning of the European Union provides that it be consulted and for which they consider to be contrary to the principle of subsidiarity" (Petrašević, 2016). According to EUR-Lex search results, not a single action for annulment has been brought.

**Table 3 Opinions not in compliance with subsidiarity 2012**

No	Opinion	Legislative procedure situation in April 2016
1	Opinion on the proposal for a Regulation on the funds covered by the Common Strategic Framework (COM(2011) 615 final, CdR 4/2012, adopted on 3 May 2012)	Regulation was adopted - 17 December 2013
2	Opinion on the proposal for a Regulation on the ESF (COM(2011) 607 final, CdR 6/2012, adopted on 3 May 2012)	Regulation was adopted - 17 December 2013
3	Opinion on the Airport Package (COM(2011) 823 final, COM(2011) 828 final, COM(2011) 824 final, COM(2011) 827 final, CdR 649/2012, adopted on 19 July 2012)	still in the legislative procedure ordinary legislative procedure
4	Opinion on the Public Procurement Package and Opinion on the award of concessions contract (COM(2011) 895 and 896 final, CdR 99/2012, adopted on 9 October 2012; and COM(2011) 897 final, CdR 100/2012, adopted on 19 July 2012)	still the legislative procedure ordinary legislative procedure
5	Opinion on the Data Protection package (COM(2012) 9, 10, 11 final, CdR 625/2012, adopted on 10 October 2012)	still the legislative procedure ordinary legislative procedure
6	Opinion on the posting of workers in the framework of the provision of services (COM(2012) 131 final; COM(2012) 130 final; CdR 1185/2012, adopted on 29 November 2012)	Proposal was withdrawn

Source : *Subsidiarity Annual Reports*

<https://portal.cor.europa.eu/subsidiarity/Publications/Pages/Publicationsandstudies-.aspx> (March 23, 2016)

Since three out of six questionable proposals are still in the legislative procedure, this paper shall analyze two adopted and one withdrawn proposal. In accordance with the initiative of the national parliament, the Commission withdrew Opinion No 6 from Table 3. The opinion of CoR was not relevant in the Commission decision (Commission Annual Report on subsidiarity COM/2013/0566 final).<sup>1</sup> On contrary, Regulation on the funds covered by the Common Strategic Framework and Regulation on the ESF were adopted in December 2013 and are still in force.

Regarding the Proposal for a Regulation on the funds covered by the Common Strategic Framework (COM(2011) 615), in its Opinion the CoR insisted that – in accordance with the subsidiarity principle – regional and competent local authorities should be responsible for choosing investment priorities and distributing the Structural Funds between the ERDF and the ESF. Specifically, in Amendment 59 they reject the proposed accreditation of management and control authorities. In this case, the CoR suggestion was respected and the adopted Regulation is in line with the CoR Opinion.

On the other hand, in its Opinion regarding proposal for a Regulation on the ESF, the CoR has expressed concern over a number of points in the Commission proposal. They include

<sup>1</sup>Commission annual report on subsidiarity COM/2013/0566 final <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52013DC0566> (accessed 25 February 2016)

those relating to thematic concentration, because they will limit the scope to tailor the ESF support to the needs and particularities of individual regions, which in turn raise issues of conflict with the subsidiarity and proportionality principles. Explicitly, the CoR is against the Commission's chosen method and procedure for pursuing this goal, as set out in Article 4(3) of the proposal for a Regulation. The prescribing of very high rates of concentration for allocations to each operational program (ranging from 80 % to 60 % depending on the category of region) in up to four of the total 18 investment priorities is incompatible with the principles of subsidiarity and proportionality. The reasoning behind this is that it may prove to be inadequate to cover the particular needs and priorities of each region (Opinion of the Committee of the Regions OJ C 225, Point 11, 37 and Amendment 5). Regulation (EU) No 1304/2013 of the European Parliament and of the Council of 17 December 2013 on the European Social Fund and the repealing Council Regulation (EC) No 1081/2006 were adopted, whereas suggestions of the CoR to remove this range were not respected. Most importantly, there is no procedure in the CJEU regarding this violation of CoR suggestions. Herein lies a legal basis for action for annulment that the CoR never brought.

## 5. Conclusions

The CoR is an advisory body of the Union that represents interests of local and regional authorities of Member States. The question that was posed at the beginning was: What is the impact of the CoR opinions? The aim of the paper was to examine the extent to which the CoR is a powerful and influential institution in order to reach a conclusion on the extent to which the regions are relevant in the EU legislative process. To find the answer, the opinions and reports of the CoR were researched and analyzed.

Even though it is an institution with "limited" powers, the Committee of the Regions makes the most out of its powers that are related to the principle of subsidiarity, but the fact remains that these possibilities are weak even in comparison with national parliaments. The critical review of the CoR remains "a blunt sword" in terms of their non-binding (advisory) character. The conclusion is that the CoR merely has a modest effect on the actors of decision-making. However, the CoR demonstrates exceptional activity in the pre-legislative stage of subsidiarity monitoring for which it has developed an internal system of early labeling of non-compliance with subsidiarity.

It is evident that the CoR intensively monitors the subsidiarity of legislative proposals in a very sophisticated way. The reports on subsidiarity are detailed and transparent. However, the conducted research has shown that the CoR has not yet brought an action for annulment. Moreover, the question of who is responsible for the oversight of or the failure to use the right to bring action for annulment remains unanswered. The impression is that the CoR does not address the already adopted legislation even if it had had remarks concerning subsidiarity in the process of adopting legislation that are binding for the participants of the legislative process. The monitoring of subsidiarity on the level of the CoR comes down to *ex ante* monitoring. The weakness of *ex ante* monitoring of subsidiarity is somewhat compensated by the right of the CoR to bring actions for annulment relating to the violation of subsidiarity, i.e. the ability to conduct *ex post* monitoring by the CJEU. However, there are certain limitations and the effectiveness thereof is questionable as well. Firstly, the CoR may ask for annulment only in cases where its consultation was obligatory. Secondly, the CJEU has not annulled a single measure on the grounds of violation of the principle of subsidiarity. However, the mere possibility that the CoR may bring actions before the CJEU may cause the respective institutions to take the opinion in the pre-legislative stage more seriously. The monitoring of subsidiarity on the level of the CoR should definitely transition from *ex ante* control to *ex*

*nunc*, which would contribute to the overall higher efficiency of the CoR and its opinions upon monitoring subsidiarity.

## REFERENCE

Chalmers, D. (2010): *European Union Law*, Oxford University Press , Oxford

Christiansen, T.; Lintner, P. (2005); *The Committee of the Regions after 10 Years: Lessons from the Past and Challenges for the Future*, Eipascope, Vol. 1, pp. 7–13

Commission annual report on subsidiarity COM/2013/0566 final <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52013DC0566> (accessed 25 February 2016)

Duić, D.; Mohay, Á.; Petrašević, T. (2013): *Predstavljanje i mogućnosti regija unutar Europske Unije* in Župan, M. ; Vinković, M., ed.: *Pravo – regije – razvoj*, Grafika, Osijek, pp. 17-41

Đulabić, V. (2006): *Regionalizam i regionalna samouprava – komparativni prikaz temeljnih dokumenata*, Hrvatska javna uprava, Vol. 6, No.1 , pp. 155-190

Opinion of the Committee of the Regions on the Principle of subsidiarity (CdR 302/98 fin) OJ 1999 C 198/73

Opinion of the Committee of the Regions on ‘Proposal for a regulation on the European Social Fund’ OJ C 225

Petrašević, T. (2016): *Postupci pred Sudom EU* in Ljubanović at.al., ed: *Procesno pravni aspekti prava EU*, Pravni fakultet Osijek, Osijek

Piattoni, S. (2014): *The Committee of the Regions as representative assembly: Mission impossible or miracle in the making* in Kröger, S. , ed.: *Political Representation in the European Union: Still democratic in times of crisis?*, Routledge , London, pp. 176-215.

Piattoni, S.; Schoenlau, J. ( 2015): *Shaping EU Policy from Below. EU Democracy and the Committee of the Regions*, Edward Elgar , Cheltenham

Protocol (No 2) on the application of the principles of subsidiarity and proportionality,(OJ 2012 C 306/206)

Proposal for a Regulation on the funds covered by the Common Strategic Framework (COM(2011) 615

Ritzer, C.; Ruttloff, M.; Linhart, K. (2013): *How to Sharpen a Dull Sword – The Principle of Subsidiarity and its Control*, German Law Journal, Vol. 14 , pp. 733-760

Rules of Procedure of the CoR ( OJ 2014 L 65/41)

Subsidiarity annual report 2012, pp. 10  
<[https://portal.cor.europa.eu/subsidiarity/Documents/Subsidiarity%20Annual%20report%202012/A3141\\_Subsidiarity%20Annual%20Report%202012\\_en.pdf](https://portal.cor.europa.eu/subsidiarity/Documents/Subsidiarity%20Annual%20report%202012/A3141_Subsidiarity%20Annual%20Report%202012_en.pdf) > (accessed 20 February 2016)

Subsidiarity Annual Reports  
<https://portal.cor.europa.eu/subsidiarity/Publications/Pages/Publicationsandstudies-.aspx>  
(accessed 23 March 2016)

Subsidiarity Work Programme CdR 2336/2012, adopted by the CoR Bureau on 30 January 2013

Tridimas, T. (2006): *The general principles of EU law*, Oxford University Press, Oxford

Wagstaff, P. (1999): *Regionalism in the European Union*, Exter, Portland

Warleigh, A. (1999): *The Committee of the Regions: Institutionalising Multi-level Governance?*, Kogan Page, London

**Assist. Professor Damir Piplica, PhD**

University Department of Professional Studies Split  
Croatia, Split, Kopilica 5  
e-mail: damir.piplica@gmail.com

**Assist. Professor Ivo Šperanda, PhD**

University of Dubrovnik - Department of Economics and Business Economics  
Dubrovnik, Lapadska obala 7  
e-mail: ivo.speranda@unidu.hr

## **UNEMPLOYMENT AND INVESTMENTS IN EASTERN CROATIA IN THE CONTEXT OF DIFFERENT IDEOLOGICAL FRAMES OF CROATIAN GOVERNMENTS**

### **NEZAPOSLENOST I INVESTICIJE U ISTOČNOJ HRVATSKOJ U KONTEKSTU RAZLIČITOG IDEOLOŠKOG OKVIRA HRVATSKIH VLADA**

#### ***ABSTRACT***

*All Croatian governments should acknowledge the importance of the investment growth activities in order to achieve its objectives in the implementation of economic policy measures, in particular to enable the equal decrease in the unemployment and encourage the employment increase in all Croatian regions. The main goal of the research is to acknowledge in (efficiency) of Croatian governments' investments policy on the decrease of the unemployment and on the encouraging of the employment in the Eastern Croatia. Both, ideological and opportunistic models will be used for investigating into their specificities. The main hypothesis of the research is that governments' investment policies should further take into consideration the given ideological frame in order to decrease the unemployment and increase employment. Although the ideological models characterize left governments more sensitive in suppressing the unemployment with regards to the right-wing ones, on the contrary, higher unemployment was registered in Eastern Croatia in their governance. Therefore, left-wing Croatian governments must put considerable weight on increasing investment activities whereby opportunistic turning towards "middle voters" will create them something easier position. If the right-wing governments follow more its "ideological worldview", and also with the set economic goals want to reduce unemployment and increase employment in Eastern Croatia, then they will have something better position of left-wing governments, but their effect on the reduction of unemployment in eastern counties is still insufficient. If right-wing governments try to turn to the „middle voters“ instead of abiding by their ideologies, this would only make their position worse in the whole unemployment decrease process in Eastern Croatia because that would mean falling effect of investments on employment. All the Croatian governments in implementing economic policy must additionally change the structure employed by the production sector and in particular stress regional equalization and efficiency in reducing unemployment and*

*employment growth in Eastern Croatia, which would reduce the emigration of the active workforce seeking a steady employment abroad.*

**Key words;** *Unemployment, Employment, Investments, Left-wing government, Right-wing government, Economic policy*

## SAŽETAK

*Sve hrvatske vlade moraju spoznati važnost rasta investicijske aktivnosti kako bi ostvarile postavljene ciljeve u provođenju mjera ekonomske politike, a posebno radi ravnomjernijeg smanjivanja nezaposlenosti i poticanja zaposlenosti u svim hrvatskim regijama. Cilj istraživanja je utvrditi (ne)učinkovitost investicijske politike hrvatskih vlada u smanjenju nezaposlenosti i povećanju zaposlenosti u istočnoj Hrvatskoj, a u istraživanju će se koristiti elementi ideoloških i oportunističkih modela te utvrditi njihove specifičnosti. Naša temeljna hipoteza će biti da vladina ekonomska (investicijska) politika mora dodatno uzeti u obzir iskazani ideološki okvir kako bi imala veći učinak na smanjenje nezaposlenosti i povećanje zaposlenosti. Premda ideološki modeli karakteriziraju lijeve vlade da su više senzibilne za suzbijanje nezaposlenosti u odnosu na desno orijentirane vlade, upravo suprotno je za vrijeme lijevo orijentiranih hrvatskih vlada više porasla nezaposlenost u istočnoj Hrvatskoj nego za vrijeme desno orijentiranih hrvatskih vlada. Stoga lijeve hrvatske vlade moraju staviti značajan ponder na povećanje investicijskih aktivnosti pri čemu će im oportunističko okretanje „srednjim biračima“ stvoriti nešto lakšu poziciju. Ukoliko desno orijentirane vlade budu više slijedile svoj „ideološki svjetonazor“, a ujedno uz postavljene ekonomske ciljeve ipak budu željele smanjiti nezaposlenost i povećati zaposlenost u istočnoj Hrvatskoj, tada će imati nešto povoljniju poziciju od lijevo orijentiranih vlada, ali je njihov učinak na smanjivanje nezaposlenosti u istočnim županijama još uvijek nedovoljan. No, ako bi se desno orijentirane hrvatske vlade oportunistički više okrenule „srednjim biračima“ nego da slijede svoj „desno“ orijentirani stranački program, to bi im otežalo njihovu poziciju u suzbijanju nezaposlenosti u istočnoj Hrvatskoj jer bi time opadao učinak investicija na nezaposlenost. Sve hrvatske vlade moraju u provođenju ekonomske politike dodatno mijenjati strukturu zaposlenih prema proizvodnim sektorima te posebno iskazati regionalnu ravnomjernost i učinkovitost u smanjenju nezaposlenosti i rastu zaposlenosti u istočnoj Hrvatskoj, a što bi smanjilo iseljavanje radno aktivnog stanovništva koje je zaposlenje potražilo u inozemstvu.*

**Ključne riječi:** *Nezaposlenost, Zaposlenost, Investicije, Lijeve vlade, Desne vlade, Ekonomska politika*

### 1. Introduction

The transition of the Croatian ex socialist economic system into a modern market economy was not a fast and an efficient one, and it resulted in worsening and even further aggravating the already existing economic problems with special emphasis on its regional character. It was due to the specific historical period that the opportunity for the investigating into particular economic phenomenon which can act differently in regards to the already established findings presented itself, depending on the economic environment they find themselves in. The focus of the research is put on the investments in the given economic settings and the impact they have on the decrease of the unemployment rates in the Eastern Croatia in the transitioning environment in the

times of both, the left and right-wing governments. The results obtained will further support the already existing theoretical deliberations, founded in certain ideological and opportunistic models that shed light on the left and right wing economic policies' implementation. The aforementioned models can serve the pragmatic purpose in the whole process of goals setting, taking into consideration the specificities of the role of investments in different settings, which will lead to an easier or more challenging realization of the set goals themselves. Neglecting of such a specific impact of the investments, in terms of determining the economic policy priorities, can thus lead to failure of executive authority bearers in their endeavours in reaching the sought after goals, mainly those of the unemployment rates decrease.

## **2. Theoretical concept and empiric research**

A great number of authors dealt in their research with the influence ideological frames have on the conducting of the economic policy of given countries. Nordhaus (1975) believed that all politicians behaved opportunistically with the purpose of obtaining the executive governance. All governments, without exception, use their voters' short term memory and expansive policy before the elections actually take place, trying to create the impression of the economic prosperity, whereas after the election they introduce the restrictive policy in the whole process of the negative consequences consolidation. MacRae (1977), Tufte (1978), Keech (1995), Reichenvater (2007) etc. also investigated into the opportunistic models. Cukierman and Meltzer (1986), Rogoff (1990) and Sibert (1988) reaffirmed Nordhaus's viewpoint even when voters would not have short survey in the past introducing the elements of the rational expectations into models.

The Hibbs's (1977) traditional model in partisan theory states that the left-wing governments tend to be more sensible towards the employment rates increase and the economic growth than on the inflation decrease. When it comes to the right-wing governments, the situation is the other way around. The sole interest of the poor workers and citizens is that of creating the new job opportunities, when it comes to the rich, their interest is mostly in obtaining the price stability which will ensure their assets devaluating does not take place. Minford (1985) drew similar conclusions while Alesina and Sachs (1988) thought that the factor of uncertainty in the left or right-wing governments winning the elections can affect the economic performance. Alesina (1987) believed that the uncertainty in terms of who wins the elections alongside the ideological differences, can affect the business cycles reaching. New Keynesian Partisan theory further supported the existing theoretical concept proving that economic consequences emerge immediately after the left or right-wing governments' winning of the elections. New Keynesian Philips curve can be traced in the works of Calvo's model (1983) as well as in works of authors such as Gertler et al. (1999), Mankiw and Reis (2002, 2007) and others.

Political profiles of the economic policies' creators and the results of conducting of such a policy were in the focus of many authors. Pacek (1994) came with macroeconomic reasons voters were influenced and guided by when taking part in elections conducted in Bulgaria, ex Czechoslovakia and Poland in the years from 1990 to 1992. Bell (1997) was investigating into economic reasons for political preferences of voters in Poland. Firdmuc (2000) proved that reforms in the Czech Republic, Hungary, Poland and Slovakia were strongly supported by the right-wing oriented parties that benefited from their implementation. Halleberg and de Souza (2000) were investigating political business cycles in some transition countries in the process of



joining EU. Akhmedov and Zhuravskaya (2004) investigated into the existence of the political business cycles in Russia. Maurel (2006) proved there was a significant increase in fiscal manipulation in times of elections in the countries of the EU, as well as in some countries in transition. Klačnja (2008) conducted a research in the countries in transition, noticing worsening in the budget deficit right ahead of the elections with improvements right after the elections, without that being statistically proved. Švaljek (2009) believed that the revenue and expenses projections of the Croatian budget were politically motivated with the purpose of impacting the election's outcome, thus creating the notion of more optimistic situation and greater country's consumption abilities.

### 3. Applied model and research methods

The research of the impacts investments on the unemployment in Eastern Croatia will be conducted using the elements of the already existing ideological and opportunistic models, which explain the economic policies creators' behaviour in reaching and setting certain goals as well as in firmly remaining in the executive authority. The unemployment in Eastern Croatia were presented in terms of the investment in Croatia, depending on whether in was the left or right wing government in governance. Furthermore, to the aforementioned data obtained was statistically analyzed. The significant change in comparison to the existing models was that the monetary policy in Croatia had for a goal reaching of the price stability (the Croatian Central Bank's primary task), which was defined by the EU accession contract as well as with the Maastricht's criteria, and therefore the monetary policies' effects are considered neutral. To support that belief we should consider the high level of Croatian Central Bank's independence has in implementing the monetary policy and that it did to a great extent realized the price stability as a primary goal of the monetary policy. The great difference could be noted if comparing the reached monetary stability in Croatia with that in the times of the ex socialist economy.

Since this viewpoint eliminates the monetary policy as an active factor in affecting the unemployment, there is no Phillips curve as a starting point as it was explained in the Partisan theory  $\pi_t = (\mu + z) - \alpha u_t$  where  $u_t$  stands for unemployment,  $\pi_t$  – inflation,  $z$  – variables that can have an impact on the wages determining (for example unemployment wages) and  $\mu$  margin (the price above the production costs). This leaves Croatian government with having to find other measures within their economic policy in order to reach certain goals. The efficient investment policy thus becomes rather important in the whole endeavour of the unemployment decrease. In this research, the regional impact on the investments will be considered an important factor when it comes to the unemployment in Eastern Croatia. It is evident that the total average of the country can significantly alter the true state in some regions.

### 4. The data, the estimation and the results

#### 4.1. Investments and unemployment in Croatia

All Croatian governments from gaining its independence onwards, have conducted an inefficient economic policy that did not lead to the unemployment decrease in the long run. It is vital that they actively impact the investment growth and its efficiency, in order to make the already engaged economic instruments even more successful. If we take a look at the investment and

unemployment from 1995 to 2015, regardless of it being obtained under either left or right-wing government in governance, it is evident there is a weak connection between the two (table no.1). On the other hand, if the left and-right wing governments should behave in a more opportunistic fashion, turning to the „middle voters“, they should consider a slightly different impact investments have on unemployment, as will be evident later on. It is interesting how the average investment rate for that period (during both left and right-wing governments) was 24.13% which is higher than the average investment rates of today` EU members that was around 23.17% at the times. Even this did not have an impact on the unemployment decrease in Croatian with 13.11% being an average rate, whereas it was 9.06% for the EU members from the 1996 to 2015. It is crucial that there should be a significant investment growth and its efficiency in order to decrease the unemployment and make it possible to reach the already pre set economic goals.

**Table 1** Investment rates and average unemployment in Croatia 1996 – 2015

Dependent: Unemployment	R = 0,37365629	2,920965	R2= 0,13961902	df= 1,18
No. of cases: 20	adjusted R2= 0,09182008	p = 0,104620	Stand error of estimate: 9274,7746170	Intercept: 101375,93779
Std.Error: 11943,67	t(18) = 8,4878	p = 0,0000	Invest. beta = - 0,37	Y = 37,7428-0,0002 x

Source: WEO, HZZO, own calculation

## 4.2. Investments and unemployment in Eastern Croatia

Five Eastern counties have been analyzed in the research conducted, namely; Brod-Posavina County, Virovitica-Podravina County, Osijek-Baranja County, Vukovar-Srijem County and Požega-Slavonia County from 1996 to 2015. The delicate war period was not included into the research and Croatian market has reached an even greater level of liberalization enabling the investigating into specific economic phenomenon of the market conditions. The investment rates for that specific period of time were combined with the unemployment indicators in regions of Croatia, depending on whether it was the left or right-wing government in governance at the time. The investment and unemployment were separately analyzed when the right-wing or left-wing parties were executive authority. The dependent t-test (table 2 and 3), resulted in discrepancy in the  $t_{calc}$  compared to the  $t_{crit}$  that leads to dismissing of the null hypothesis, proving there were no great alterations in the data, and that there was a significant discrepancy in the investments and unemployment in Eastern Croatia depending on it was the left or right-wing government in ruling. Even the research was conducted on small samples, the data obtained shows the different impact the right and left-wing governments had on the unemployment decrease in Eastern Croatia.

### 4.2.1. Investments and unemployment rates in Eastern Croatia at times of the right-wing governments

The investment rate of 25.97% during the right-wing governments from 1996 to 2015 was higher compared to the EU members` average investment rates at the time but the investment rates compared to the unemployment in Eastern Croatia for that period was less negatively connected (table no. 2). Since the Croatian voters are rather sensible towards the unemployment decrease, that was higher than was the average in the EU countries, right-wing governments have to put stronger ponders on its decrease, in order to have a positive outcome of their endeavours

eventually. In case the right-wing governments opportunistically turn to the so called „middle voters“, instead of adhering to their right oriented party’s programme, they would end up having a rather difficult position in trying to decrease the unemployment in Eastern Croatia because the left-wing governments proved less successful in that endeavour.

**Table 2** Investment rate and unemployment in Eastern Croatia, right-wing governments 1996-2015

Dependent: Unemployment		R = 0,22694873	F = 0,5430262	R2= 0,05150573	df= 1,10				
No. of cases: 12		adjusted R2= -0,04334370	p = 0,478114	Standard error of estimate:7034,4406699			Intercept: 86406,728162		
Std.Err: 14791,43		t(10) = 5,8417	p = 0,0002	Invest. beta = - 0,23			Y = 35,3895 - 0,0001 x		
Pred. - Res.	Observed - Value	Predicted - Value	Residual	Standard - Pred.v.	Standar-Residual	Std.Err. - Pred.Val	Mahalanobis - Distance	Cook's - Distance	
Min.	67035,00	73371,88	-10820,2	-1,43204	-1,53818	2081,098	0,046094	0,001474	
Max.	83703,00	77855,20	8712,1	1,43647	1,23850	3661,417	2,063442	0,602934	
Mean	75610,09	75610,09	-0,0	-0,00000	0,00000	2805,583	0,916667	0,121464	
Med.	76162,00	75468,25	812,6	-0,09075	0,11551	2737,530	0,755599	0,086079	
Test of Means		Mean	Std.Dv.	N	Std.Err.	Ref.-Cons.	t-value	df	p
Investment		26,01	3,765	12	1,087	0,00	23,92962	11	0,000
Unemployment		75610,08	6886,775	12	1988,041	0,00	38,03246	11	0,000

Source: WEO, HZZO, own calculation

#### 4.2.2. Investment and unemployment in Eastern Croatia, left-wing governments

Investment rate left-wing governments from 1996-2015 was 21,3%, which was lower than the average investment rate of today’s EU members at the time. On the other hand, the investment rate and unemployment in Eastern Croatia is even moderately positive connected from 1996 to 2015. With their inefficient policy, the left-wing Croatian governments further increased the unemployment in Eastern Croatia reaching the average of 37 % in Brod-Posavina County in 2013, 36,2% in Virovitica-Podravina County, 35,8% in Vukovar-Srijem County, etc., which are the highest unemployment rates in Croatia ever to be registered compared to other regions. It is clear that the left-wing Croatian governments have to set more powerful ponders in the unemployment decrease in Eastern Croatia than was the case with the right-wing Croatian governments because only by mentioned economic (investment) policy that they can achieve certain goals. If the left-wing Croatian governments turn opportunistically to the „middle voters“ instead of adhering to their party’s programme, they would have a more favourable position in the unemployment decrease, since the right-wing governments proved more efficient in doing so.

**Table 3** Investment rate and unemployment in Eastern Croatia, left-wing governments 1996-2015

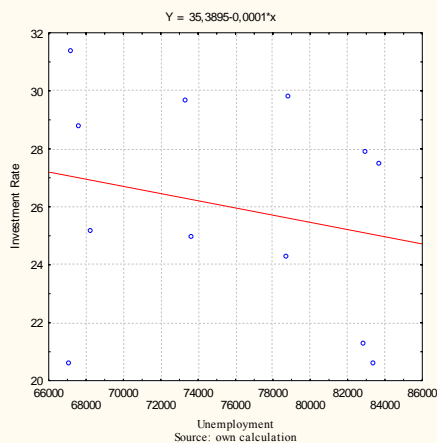
Dependent: Unemployment		R = 0,46904853	F = 1,692372	R2= 0,22000652	df= 1,6				
No. of cases: 8		adjusted R2= 0,09000761	p = 0,241012	Standard error of estimate:6407,1767055			Intercept: 71973,231088		
Std.Err: 13865,09		t(6) = 5,1910	p = 0,002	Invest. beta=0,469			Y = - 2,3397 + 0,0003 X		

Pred. - Res.	Observed Value	Predicted Value	Residual	Standard - Pred.v.	Standard-Residual	Std.Err. - Pred.Val	Mahalanobis Distance	Cook's - Distance	
Min.	76680,00	86760,54	-10080,5	0,954669	-1,57332	2322,808	0,045007	0,000018	
Max.	99925,00	95365,58	6313,8	1,776745	0,98543	4862,598	3,156821	2,176365	
Mean	89768,13	89768,13	0,0	0,000000	0,00000	3103,394	0,875000	0,407894	
Med.	88990,00	88431,42	1045,8	-0,42429	0,16322	2842,757	0,508087	0,061415	
Test of Means		Mean	Std.Dv.	N	Std.Err.	Ref.-Cons.	t-value	df	p
Investment		21,30	3,771	8	1,333	0,00	15,97625	7	0,000001
Unemployment		89768,13	6716,574	8	2374,668	0,00	37,80240	7	0,0000

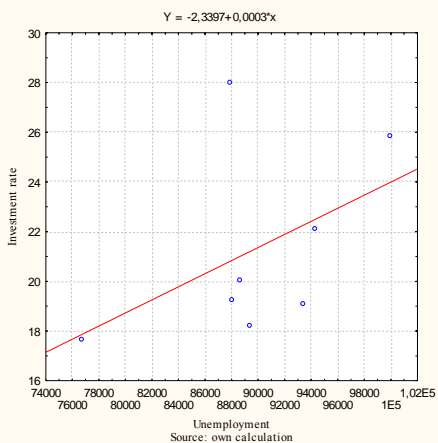
Source: WEO, HZZO, own calculation

Whereas right-wing Croatian governments affected to a lesser degree the unemployment decrease in Eastern Croatia, the left-wing ones with their investment policy increased the unemployment furthermore. The average number of the unemployed ones in Eastern Croatian Counties reached the total of 75.610,09 in right-wing Croatian governments, whereas at the times of left-wing governments it surged to 89.768,13 and even up to 99.925,0. It is evident that the investment impact is strongly felt in some other Croatian Counties and that there is no equal regional development throughout the country. This is obvious on the example of Brod-Posavina County that stands for only 2% of the total national wealth, and GDP per capita is around 43% lower than the Croatian average, or three times lower than that of the capital city of Zagreb. The situation is not much different in the Vukovar-Srijem County with GDP per capita being 42% lower than the country's average whereas in Požega-Slavonia and Virovitica-Podravina County it is 40% lower than the Croatian average. As a consequence of conducting and implementing such an economic policy, there have been greater migrations of the local workforce from the Eastern Croatian regions and they face the negative inhabitants' migrations balance not only transferring to other, more affluent counties but abroad as well.

Graph no. 1 Investment Rate and Unemployment in Eastern Croatia- Right-wing Government 1996.-2015.



Graph no. 2 Investment Rate and Unemployment in Eastern Croatia- Left-wing Government 1996.-2015.



All five Eastern Croatian counties have a rather homogeneous economic structure ideal for the simple forming and conducting of the development measures which can be equally successful in all counties. The aforementioned regions have certain specialized activities such as agriculture, forestry and others, but these differentiations are small since are in the public sector and administration, defence and education system, health care system and social services etc.. As a result of Government's inefficient economic policy, the gradual worsening of the primary and secondary activities of Eastern Croatian regions in shares in the total GDP has been continuous. From the 90's onwards the share of the activities in the total gross product was 41,4% now being lower than 40%, even though the manufacture was to be essential in the employment growth. Moreover, only the Eastern regions from the 90's onwards registered GDP negative decrease of 17% in 2009. Another negative consequence of an inefficient economic policy conducting was registered in people getting an employment in non manufacturing sectors. In 2014 in Virovitica-Podravina County 32,8% of workers were employed in public administration and defence; compulsory social security, education, human health and social work activities, 34,5% in Požega-Slavonia County, 31,3% in Brod-Posavina County, 31,2% in Osijek-Baranja County and the astonishing 38,2% in Vukovar-Srijem County.

## 5. Conclusion

All Croatian Governments have conducted an economic policy from the Independence onwards that proved rather inefficient in unemployment decrease in Eastern Croatia. Apart from the investment activities increase, Croatian governments must acknowledge the importance of their ideological frames in order to be more efficient in the unemployment decrease and employment increase. Against all the inveterate postulates, the left-wing Croatian governments were the ones that further increased the unemployment in Eastern Croatia than was the case with the right-wing ones. Therefore the left-wing Croatian governments have to put a significant ponder on the investment activities' growth and in doing so their opportunistic turning towards the „middle voters“ will make their position a something easier one. On the other hand right-wing Croatian governments have something easier position than left-wing ones but still their impact on the unemployment decrease in Eastern counties is insufficient. If on the other hand, the right-wing Croatian governments, for opportunistic reasons, should turn to the „middle voters“ instead of adhering to their right oriented party's programme, that would make their position more difficult in trying to decrease the unemployment in Eastern Croatia, gradually diminishing the investment impact on the unemployment itself. Croatian governments should pay special attention when conducting their economic policies to the altering of the structure of the employed towards the manufacturing sectors and not to the inefficient public sector, and in doing so to try to equally operate the regional uniformity and efficiency in the unemployment decrease and employment growth, which would lead to lesser migrations of the active workforce of Eastern Croatia to other counties or even abroad.

## REFERENCES

- Alesina, A. (1987), *Macroeconomic Policy in a Two-Party System as a Repeated Game*, Quarterly Journal of Economics, 102(3), 641-678, doi.org/10.2307/1884222
- Alesina, A. & N. Roubini, (1992), *Political Cycles in OECD economies*, The Review of Economic Studies, 59(4), 663-668, doi.org/10.2307/2297992

- Alesina, A., & Sachs, J., (1988), *Political parties and business cycle in the United States*, J. Money Credit Bank. 20, 63-82 doi.org/10.2307/1992667
- Akhmedov, A. & E. Zhuravskaya, (2004), *Opportunistic political cycles: test in a young democracy setting*, Quarterly Journal of Economics, 119, 1301–1338, doi: 10.1162/0033553042476206
- Bell, J., (1997), *Unemployment matters: Voting patterns during the economic transition in Poland, 1990–1995*, Europe-Asia Studies, 49(7), 1263-1291. doi: 10.1080/09668139708412499
- Calvo, G., (1983), *Staggered Prices and in a Utility-Maximizing Framework*, Journal of Monetary Economics, 12(3): 383-98, doi:10.1016/0304-3932(83)90060-0
- Cukierman, A., & Meltzer, A., (1986), *A positive theory of discretionary policy, the cost of democratic government, and the benefits of a constitution*, Econ. Inq. 24:367-88 doi.org/10.2307/1912324
- Fidrmuc, J., (2000), *Economics of Voting in Post-communist Countries*, Electoral Studies, Special issue: Economics and Elections, 19(2/3), 199-217.
- Gertler, M., Gali, J. & R. Clarida, (1999), *The Science of Monetary Policy: A New Keynesian Perspective*, Journal of Economic Literature, American Economic Association, 37(4), 1661-1707,
- Hallerberg, M. and L.V. de Souza, (2000), *The Political Business Cycles of EU Accession Countries*, European Union Politics, 3(2), 231- 250. doi.org/10.1177/1465116502003002005
- Hibbs, D. A., (1977), *Political Parties and Macroeconomic Policy*, The American Political Science Review, 71(4), 1467-1487. doi.org/10.2307/1961490
- Keech, W., (1995), *Economic Politics: The Costs of Democracy*, Cambridge, UK: Cambridge Univ. Press, doi.org/10.1017/CBO9780511609374
- Klašnja, M., (2008), *Electoral Rules, Forms of Government, and Political Budget Cycles in Transition Countries*, Panoeconomicus, 55(2), 185- 218. doi.org/10.2298/pan0802185k
- MacRae, C.D. (1977), *A Political Model of the Business Cycle*, J. Polit. Econ. 85(2):239-63
- Mankiw, N.G. & R. Reis, (2002), *Sticky Information Versus Sticky Prices: A Proposal To Replace The New Keynesian Phillips Curve*, The Quarterly Journal of Economics, MIT Press, 117(4), 1295-1328, doi.org/10.1086/260561
- Mankiw, N.G. & R. Reis, (2007), *Sticky Information in General Equilibrium*, Journal of the European Economic Association, MIT Press, 5(2-3), 603-613, doi: 10.3386/w12605
- Maurel, M., (2006), *The Political Business Cycles in the EU Enlarged*, Slovenian Journal for Money and Banking, 55(11), 38-41

Minford, P., (1985) *Unemployment and Real Wages: The Role of Unemployment, Social Security Benefits and Unionisation [Labour Market Equilibrium in an Open Economy]: Reply*, Oxford Economic Papers, Oxford University Press, 37(2), 339-43

Nordhaus, W. D., (1975), *The Political Business Cycle*, *Review of Economic Studies*, 42(2), 169-190, doi.org/10.2307/2296528

Pacek, A. C., (1994), *Macroeconomic Conditions and Electoral Politics in East Central Europe*, *American Journal of Political Science*, 38(3), 723-744. doi: 10.2307/2111604

Reichenvater, A. (2007), *Business Cycles, Political Incentives and the Macroeconomy: Comparison of Models*, MPRA Paper no. 5527, Munich: University Library of Munich.

Rogoff, K. i A. Sibert, (1988), *Elections and Macroeconomic Policy Cycles*, *The Review of Economic Studies*, 55(1), 1-16, doi: 10.2307/2297526

Rogoff, K. S., (1990), *Equilibrium Political Budget Cycles*, *American Economic Review*, 80(1), 21-36, doi.org/10.3386/w2428

Švaljek, S., (2009), *Projekcija prihoda državnog proračuna u Hrvatskoj: zašto nastaju greške?*, *Privredna kretanja i ekonomska politika*, 19(119), 53-68

Tufte E.R., (1978), *Political Control of the Economy*, Princeton, NJ: Princeton Univ. Press doi.org/10.1017/s0022050700093712

**Katarzyna Skrzyszewska, Ph.D.**

Gdynia Maritime University  
ul. Morska 81-87; 81-225 Gdynia, Poland  
Phone: (+48) 602 330 546  
E-mail address: k.skrzyszewska@wpit.am.gdynia.pl

**Tihomir Luković, Prof. Ph.D.**

University of Dubrovnik  
Lapadska obala 7; 20000 Dubrovnik; Croatia  
Phone: (+385) 20 445 931  
E-mail address: tihomir.lukovic@unidu.hr

**Zrinka Marušić, mag. math.**

Institute for Tourism  
Vrhovec 5; 10000 Zagreb; Croatia  
Phone: (+385) 1 3909 666  
E-mail address: zrinka.marusic@iztzg.hr

**NATIONAL STRATEGIC DOCUMENTS FOR DEVELOPMENT BY  
2020 AS THE DEVELOPMENT FACTORS IN EASTERN CROATIA:  
CASE STUDY OF RIVER CRUISING**

**NACIONALNI STRATEŠKI DOKUMENTI RAZVOJA DO 2020 KAO  
ČINITELJI RAZVOJA ISTOČNE HRVATSKE, CASE STUDY RIJEČNI  
CRUISING**

***ABSTRACT***

*Europe, as a single market in the global world, is formed as a new economic and political community of nations. The European Union is developing its strategic documents on the European level, giving countries general guidelines only. On the basis of these guidelines, each country develops its strategic documents and economic development policies in accordance with the national model of the economy. River cruising in Croatia is somewhat recognised by the state as a tourism product that may significantly contribute to the economic development of Eastern Croatia. River cruising occurs sporadically in national strategic development documents, such as the Tourism Development Strategy of the Republic of Croatia until 2020. The question that remains is: how do national strategic documents and strategic planning contribute to the development of river cruising? Given the strategic documents of the development of Europe and Croatia are documents, which are based on management by objectives, the hypothesis of this study is: national strategic development documents which relate to river cruising are a key factor in the development of river cruising in Eastern Croatia. The paper analysis the European strategic framework and assesses the effectiveness of the Croatian strategic documents, using the case of river cruise tourism. The research is based on the European and Croatian normative acts, statistical reports and strategic documents prepared on the different levels of government. The research method used in this paper is the critical analysis of the data gathered during the literature review.*



**Key words:** national strategy of development, Europe 2020 strategy, river cruising, economy in transition, Eastern Croatia

## SAŽETAK

Europa, kao jedinstveno tržište u globalnom svijetu formira se kao nova ekonomska i politička zajednica naroda. Europska Unija svoje strateške dokumente razvija na globalnoj razini Europske Unije te pritom državama članicama pruža samo opće smjernice. Temeljem tih smjernica svaka država razvija svoje strateške dokumente i politike gospodarskog razvoja sukladno nacionalnom modelu funkcioniranja gospodarstva. Riječna krstarenja u Hrvatskoj donekle su prepoznata i od strane države kao turistički proizvod koji može značajno pridonijeti gospodarskom razvoju istočne Hrvatske te, iako skromno, sudjeluju u nacionalnim dokumentima strateškog razvoja, kao što je Strategija razvoja turizma Republike Hrvatske do 2020. godine. Ostaje, međutim, pitanje na koji način strateški dokumenti i strateško planiranje utječu na razvoj riječnih krstarenja. S obzirom na to da su strateški razvojni dokumenti Europe i Hrvatske temeljeni na upravljanju pomoću planova i ciljeva 'management by objectives', hipoteza ovog istraživanja glasi: nacionalni strateški dokumenti razvoja koji se odnose na riječna krstarenja ključni su činitelj razvoja riječnih krstarenja istočne Hrvatske. Svrha je ovog istraživanja, na primjeru turističkog proizvoda riječnih krstarenja, analizirati strateške razvojne dokumente u Hrvatskoj i Europskoj uniji. Istraživanje je temeljeno na hrvatskim i europskim službenim strateškim dokumentima, statističkim izvještajima i studijama, a primijenjena je metoda kritičke analize prikupljenih dokumenata.

**Gljučne riječi:** nacionalna razvojna strategija, Europe 2020 strategija, riječna krstarenja, ekonomija u tranziciju, istočna Hrvatska

## 1. Introduction

Europe is now developing as a community of nations, whose cultures are similar, but whose economies are, by the level and mode of development, fundamentally different. Striving for faster development of less developed economies, Europe is focused today primarily on those economies in transition. In order to support their faster economic development by variety of measures, but also in order to monitor that development, the European Union is developing strategic documents on the European level. Croatia, as a country in transition, is trying to align its strategic documents with those of the European Union, but the Croatian strategic documents by their role and the importance for the economy are fundamentally different from the European ones. The strategic documents which are pertaining to the Croatian economy are created and perceived in the same way as in the former Yugoslavia, where they had a form of political and economic directives. Therefore, the purpose of this study is to analyse the role and importance of these strategic documents and consider their role in the economic development of Croatia, particularly of the region of Eastern Croatia. The case of river cruise tourism product was used for this exercise. The paper will first give an overview of the European strategic framework and position of river cruise tourism within it, followed by short presentation of the current state of river cruise tourism in Croatia. The main part of the paper deals with Croatian strategic documents and an assessment of their effectiveness regarding the river cruise development. Desk research and method of critical analysis of the reviewed literature are used to assess the effectiveness of the existing strategic documents in Croatia and European Union.

## 2. Europe 2020 - the European strategy for smart, sustainable and inclusive growth

In 2010, the previous, unrealised Lisbon Strategy was replaced by the Europe 2020 Strategy. Three major priorities were established, the implementation of which will lead to a sustainable recovery – a recovery to the pre-crisis growth and further development. These priorities are: (i) smart growth, (ii) sustainable growth, (iii) inclusive growth (COM(2010) 2020, 8). The priorities are accompanied by targets that measurably present the expected results of the implementation of the Europe 2020 strategy, the European Commission proposed indicators, the achievement of which would be equal with the objectives (Tab. 1). Recognizing the lack of full convergence of socio-economic entities making up the European Union - the Commission has proposed that each Member State should correct indicators and transform them "(...) to the national targets and methods of action" (COM(2010) 2020, 5).

**Table 1** European and Croatian targets of priorities in Europe 2020

Priorities		Targets	
		Europe	Croatia
Smart Growth	The employment rate of population aged 20-64 [%]	75.0	62.9
	R&D in GDP [%]	3.0	1.4
Sustainable Growth	Reduce greenhouse gas emissions compared to 1990 [%]	20.0	20.0
	Increase the share of renewable energy sources in final energy consumption [%]	20.0	20.0
	Increase energy efficiency [%]	20.0	20.0
Inclusive Growth	Reduce the number of early school leavers [%]	10.0	4.0
	Increase the share of population aged 30-34 having completed tertiary education [%]	40.0	35.0
	Reduce the number of people in poverty [000]	20 000	150

Sources: (COM(2010) 2020, 8-9), (Europa 2020 – Hrvatski ciljevi).

National documents incorporate European challenges into national law, while, on the other hand, the identified national potentials and barriers may actively participate in the process of formulation of the EU strategic objectives. National development goals and priorities stated in national strategic documents are, therefore, to a significant extent part of the European objectives and consistent with them.

## 3. River cruising as the potential source of the smart, sustainable and social inclusive growth

Diagnosis of the Croatian economy contained in the *Report Croatia. Policy Notes. A Strategy for Smart, Sustainable and Inclusive Growth* drawn up by experts from the World Bank shows that Croatia's biggest problems are: low GDP growth and high unemployment (World Bank, 2012, 10). In conclusion, the report states that in order to overcome barriers to the development of national economy, Croatia should "(...) start collecting dividends from its geographical position as a gateway to Europe" (World Bank, 2012, 10). The example of such activity is transport and tourism. Considering the fact that Croatia is located on a major European waterway and at the central part of the South-East transport corridor, the activity connecting both, transport and tourism, is a river cruising. The transport activity, i.e. the inland water transport, is playing a major role in the overall river cruise tourism product, which conforms to *Europa 2020* framework.

Smart growth based on river cruising is made possible by, paradoxically, a bad situation in European inland waterway. Inland water transport is neglected in comparison to other areas of transport. The EC appealed to the environments associated with the river transport for greater involvement in research, development and innovation (RDI). Priority initiatives will be associated with an increase of ecological safety of the fleet. The EC believes that the certification of technological solutions can contribute to their rapid, widespread deployment

which in turn will translate into the development of the market. Through innovative solutions its competitiveness will rise (COM (2013) 623); (Kizielewicz, 2016, 193).

Inland waterway transport is the most environmentally friendly mode of transport, safe for the environment, a quiet, almost devoid of congestion. Transport rivers is concentrated primarily in densely populated areas (due to the low level of noise is not a source of discomfort), and by combining the Rhine River, Scheldt, Meuse, Seine and the Danube River covers a large area of Europe (COM (2006) 6).

"Tourism is one of the world's top job creators (...) an important agent for development (...)" and it "(...) can help the transition to a Green Economy" (ILO/UNWTO, 2009). The development of tourism, including river cruising can contribute to: "increasing the number of providers of tourist services, renovation of old skills and crafts, opening of new sales channels of local products and services" (Damir, 2012, 122). All kinds of these activities can accelerate increasing of employment and in result reduce the number of people out of poverty.

At the level of the European Union strategies and plans for the development of inland waterway refer only to the use of rivers for transport of cargo. There are not any references to use the inland waterways for tourism purposes (eg. Naiades, Naiades II).

The issue of the development of river cruising can be raised in the macro-regional strategy: the EU Strategy for the Danube Region. It is based on the four pillars (connect the region, protecting the environment, strengthening the region, building prosperity) and eleven priority areas. One of them - Priority Area 03 "It's promote culture and tourism, people to people contacts" can be the platform common for the development strategy of the region's river cruising as a high qualified touristic product (EUSDR, 2016).

The only supranational document referring to the river cruising is the European Agreement on Main Inland Waterways of International Importance (AGN). This document, *inter alia*, raises issues of the development of tourism by inland waterway in Europe and of the contribution of public authorities to the development of tourism by inland waterway (UN, 2013).

It can therefore be concluded that there is no specific directives on river cruise tourism development on the EU level, but river cruising is in line with the general objectives of *Europe 2020*.

#### **4. River cruise tourism in Croatia**

River cruises in Croatia are taking place on the Danube River and, partly, on the River of Drava, both in the Eastern part of Croatia. The first river cruise ship on the Danube River arrived at the Croatian port of Vukovar in 2001, and since then the number of calls has multiplied. In 2015, the Croatian Danube ports of Vukovar, Batina and Ilok, and the port of Osijek on the River Drava recorded 309 cruise ship calls and nearly 40,000 passengers.

According to the research conducted by the Institute for tourism in 2013-2015 period (Institut za turizam, 2014, 7), the total revenue from river cruise tourism in 2013 is estimated at slightly more than 1.1 million Euros or about 38 Euros per visitor from a river cruise ship (Tab. 2). The biggest part of that revenue (450,000 Euros or 39% of the total revenue) is the revenue generated by the supply of the ship with fuel, followed by that generated by passengers and crew members while on land (497,000 Euros or 43% of the total revenue). In addition to direct contribution of the obtained revenue to the local economy (both in terms of size and structure of the revenue), it is expected that the experience of visitors from river

cruises would contribute to the spread of information about Croatia in foreign markets. Since river cruise visitors expressed the high level of satisfaction with most of the elements of the tourist offer of Eastern Croatia (Institut za turizam, 2014, 65), from the expertise of tour guides, friendliness of staff in restaurants and other facilities, hospitality of hosts, land excursions, and gastronomic offer to personal security and the overall experience of the destination, positive 'word of mouth' can result in new and even targeted arrivals at the area.

**Table 2 Revenues from river cruise tourism in Croatia in 2013**

	Euro	%
REVENUE GENERATED BY CRUISE SHIPS IN PORTS	650 000	56.7
Port fees	60 000	5.2
Fees for police and customs inspection	12 000	1.0
Ship agents fees	27 000	2.4
Revenue from the supply of the ship with fuel, water and food	545 000	47.5
Revenue from the services of waste disposal from ships	6 000	0.5
ON LAND REVENUE GENERATED BY PASSENGERS AND CREW	497 000	43.3
On-land consumption of passengers	300 000	26.2
Revenue of travel agencies for organisation of land excursions	150 000	13.1
On-land consumption of crew members	47 000	4.1
TOTAL REVENUES FROM RIVER CRUISE TOURISM	1 147 000	100.0

*Source: (Institut za turizam, 2014, 37).*

On the other hand, the expressed dissatisfaction with the range and quality of the souvenir offer and shopping opportunities means that a direct contribution to the economy of the area could possibly be much higher.

River cruise ship calls anticipated in the Croatian Danube (and Drava) river ports for 2016 indicate a slight increase in demand compared to 2015. A conservative approach to short-term forecasts estimates the number of passengers in 2020 from 50 to 60 thousands, which is a 25% - 50% increase compared to 2015. However, there are several factors that can still positively affect the growth of river cruising in Croatia. The river cruise tourism product in the world is today still in its development phase, ship orders continue to grow, and we can expect that carrying capacity of the upper Danube River would gradually be reached. Assuming the improvement of the river cruise tourism product in Croatia, adequate promotional activities and stakeholders' integration, it is possible to expect that the river cruise demand would exceed the conservative forecasts. The total revenues of the international river cruising in Croatia could, in such circumstances, reach nearly 3 million Euros.

The existing capacity of the Croatian rivers cruise ports infrastructure is sufficient for the forecasted growth, in terms of a number of ships and passengers. It can therefore be concluded that the potential for further development of the river cruise tourism product is large and under-exploited. The River of Danube is navigable all year round, the River of Drava is navigable to the port of Osijek most of the year, while the River of Sava could be, undertaking certain activities on the river, navigable to the port of Sisak. The construction of the Danube-Sava channel, which is likely in the near future, could further contribute to the attractiveness of both, navigation and on-land activities of river cruise passengers in Croatia.

Despite numerous natural and cultural attractions, tourism is still underdeveloped in the region of Eastern Croatia. The region makes 11.7% of the land surface of the Republic of Croatia, but accounts for just 0.9% of the total number of registered tourists' arrivals and 0.4% of the total tourists' overnights in commercial accommodation facilities in 2015. River cruises are therefore recognized as one of the backbone and driving force of the future tourism

development of the area. The question that arises is to what extent is river cruise tourism represented in the development documents concerning the area of Eastern Croatia.

## 5. Croatian strategic documents

As before its independence, Croatia's economic development today is based on the national strategic documents relating mainly to the period of ten years, adopted by the Croatian Parliament. Until January 2016, Croatia published 45 national strategic documents regarding the period from 2014 to 2020, including 20 strategies, 6 plans, 13 programs and 6 other documents (Europski fondovi portal). Judging by their relevance, the strategies are still the most important strategic documents of the Republic of Croatia. That is why they are worth specifying, *inter alia*: *Industrial Strategy of the Republic of Croatia 2014.-2020.*; *Draft of Croatia's smart specialisation strategy*; *The draft proposal of Croatian innovation strategy 2014–2020*; *Strategy of Government Programs 2015-2017*; *Strategy for combating poverty and social exclusion in the Republic of Croatia 2014-2020*; *Energy Strategy of the Republic of Croatia*; *Strategy of Education, Science and Technology*; *Draft of Croatia's smart specialisation strategy*; *Strategy for innovation encouragement of the Republic of Croatia 2014-2020*; *Transport development strategy of the Republic of Croatia 2014-2030*; *Croatian Tourism Development Strategy till 2020*.

Although significantly referring to a mode of transport, i.e. inland waterway passenger transport, river cruising is not mentioned at all in the Transport Development Strategy 2014-2030. On the other side, Croatian Tourism Development Strategy till 2020 recognizes river cruises as part of nautical tourism, one of the types of tourism Croatia can capitalize the most.

Apart from the published list of national strategic documents, Croatia has several strategies which are not on the official list, such as "Development Strategy of the Croatian Nautical Tourism from 2009 to 2019" or strategies of certain types of tourism, also on national level, that are partly a form of operationalization of the "Croatian Tourism Development Strategy".

Each strategy has a particular methodology of writing, but in essence they all point to the segments of the economy important for Croatia. They define goals and underline the fact that it is necessary to plan in order to achieve these goals. Each strategy very ambitiously points out the need for development and reveals the factors which hinder that development or prevent prosperity. It may be concluded that these documents do not lack optimism and enthusiasm.

## 6. Effectiveness of the strategic documents and management by objectives, M-model steps

The question that arises is the question on efficiency of the strategic plans. Unfortunately, their efficiency has not been monitored in Croatia, yet. An expert assessment is that the current effectiveness of those plans is not satisfactory. Due to the undeveloped communication model, and, furthermore, due to the undeveloped model of controlling the strategic planning based on two-way approach, i.e. *top down* and *bottom up*, it is obvious that effectiveness and appropriateness of those strategic documents are as worse as their level is higher (Tab. 3).

Both, effectiveness and appropriateness of strategic documents can be assessed through the results achieved by the end of the planning period. However, it would be mistake to wait to the end of planning period and conclude that the plans have not been realized. In order to control the process of strategy implementation, all relevant controlling elements of the

strategic planning should be incorporated into the process. Moreover, four strategic areas that contribute to the successful planning and implementation of strategic goals (Luković, Lebefromm, 2014, 263) should be solved prior to setting the mission: diagnosis (where are we today?), aims and objectives (where do we want to go?), implementation of the goals (how do we get there?), and evaluation (how we will know when we get there?).

**Table 3** Effectiveness of strategic documents by the level of adoption

Strategy level	Coordinated - based on economic subjects	Degree of efficiency
National	Developed by expert teams using their knowledge and experience. Not based on plans of economic subjects.	None
Regional	Developed by expert teams who, besides their knowledge and experience, try to get data from leading regional economic subjects.	Very low
Local	Mostly developed by local experts elected by political, rather than professional or scientific competence.	Low
Industry	Developed by expert teams and based on their research, but without significant use of analyses or plans for economic subjects in the respective industry.	Low
Company	Small companies do not have strategies. Large companies rarely have strategies and strategic plans. If they have such plans, they usually do not rely on controlling the process of planning, and the results of planning are not monitored.	Rare, low

Source: the author's (Luković, T.) expert assessment.

In order to realistically set the above mentioned four strategic areas, all subjects in the planning chain should participate in the process and achieve commitment in every step of it. All the participants in the *top down* model should give answers to the crucial question: which plan, how and when will meet the aims and objectives (Luković, Lebefromm, 2014, 269). The strategic plan of a higher level is then developed based on strategies, tactics and action plans of all participants. It is obvious that Croatia, and, therefore, Eastern Croatia as well, are lacking all of this. Moreover, as the level of strategic planning is higher, its purposefulness is lower.

How to achieve efficiency and purposefulness of strategic planning on all the levels? The answer is in motivation and knowledge. In order to achieve motivation within the strategic controlling planning system, it is necessary to realise all steps of management. The concept of the entire system is based on the WEG-model (Deyhle, 2003) in which behaviour and ensuring implementation constitute the central part. Management which ensures the realisation of the set objectives/goals has five steps. Each step is a special type of *management by ....* In order to realise the *management by ...* system, it is first necessary to realize the Drucker's *management by objectives* (Drucker, 2011).

Regarding the case of river cruise tourism in the region of Eastern Croatia, its economic performance and success, as well as reality of the strategic planning require involvement of a wide range of subjects (stakeholders) participating in the creation of the supply, i.e. the tourism product. Strategic planning of river cruising in Eastern Croatia requires, above all, the agreement on the plan and the objectives, meaning the consensus of all stakeholders taking part in development of river cruise tourism product of Eastern Croatian. The agreement should take into account all the parameters that may affect the estimates, particularly a time dimension. This means that it is necessary to allocate appropriate time, and that each entity of river cruising has to declare their participation, and set up his/her plan. It should be clearly stated in the following form: "I can achieve my goal within the given time taking into account all the present and future factors". That would be *management by objectives*. In the second step each entity participate in allocation of time and all other factors relevant for the realisation of the set objectives, i.e. each entity takes own responsibility for the plan

implementation. This is *management by participation*. Thus, each entity (i.e. ports, agents, local government, tourism boards, travel agencies etc.) takes on the responsibility for its own tasks and activities that would lead to the achievement of his/her own objectives. Everybody must know what, when, how, where, why and how much is expected of them. It entails *management by delegation*. Each task is delegated to somebody and implemented as a part of the overall strategic plan, depending on competence of each subject of river cruising in Eastern Croatia. Next step is *management by exception* that occurs in the case of unexpected circumstances that can negatively influence the river cruise, such as unfavourable weather conditions etc. It means that the unexpected situation has to be anticipated and prepared for in order to eliminate or minimise its negative effects. The last step is *management by result* that is based on continuous comparison of planned and realised objectives for each entity engaged in strategic planning, and for each operational year, month, and day. It is the important step in the process of strategic planning because the final goal must be achieved and cannot be changed, and the strategic plan must leave 'enough space' for its realisation.

Therefore, starting with the *management by objectives*, the first one and the unavoidable step in the process of strategic planning, it is necessary to go through the five-step *management by objectives* in order to reach the goal. However, the goal, in this case the development of river cruising in Eastern Croatia, the increase of its economic impact and investments to the region cannot be achieved without a successful overall economic model for the region. This primarily concerns the effective local government, which must clearly define development plans in their area, taking into considerations the attitudes and expectations of all citizens. Unfortunately, Eastern Croatia, as well as the whole Croatia, does not have any strategic planning system and therefore its development takes place completely randomly. This situation requires changes, and only changes can bring together quality and competent people on all levels of the government.

## 7. Conclusion

The study has shown that the strategic documents on the level of the European Union do not have the same role as those documents in the transition economies. The strategic documents of the European Union are a prediction of future development, which realisation is based on the controlled model and with the controlled dynamics. A similar role of the strategic documents is found in the developed economies of Europe, where the practice of their adoption is rare but where the market and other users commit themselves to make up the development model, and follow the steps *management by objectives*. At the same time the strategic documents in transition economies, such as Croatia, or its region Eastern Croatia, have an entirely different role. These documents are understood as a political task, and this is the policy which no longer exists. Therefore, they are ineffective. In addition, the system of the strategic documents in Croatia is developed on all levels, from the national to the regional and local level, and they are adopted by the government, national, regional or local, respectively. At the same time, there is neither national management development model nor planning process in compliance with the market principles. Without a stable and efficient model of development, that enables networking of all economic subjects/operators, and that is implemented as the system of the market-oriented economy, strategic documents make no sense. In the case of river cruising in Eastern Croatia, it can be concluded that the research hypothesis, which states that the national strategic development documents that relate to river cruising are a key factor in the development of river cruising in Eastern Croatia must be rejected because the strategic documents without the well-established and market-oriented model of the economic development do not make any sense. An effective model of river

cruise development in Eastern Croatia should, therefore, be developed through *management by objectives* which connects all the entities and leads to the targeted results.

## REFERENCES

COM(2006) 6: “*NAIADES*” - *An Integrated European Action Programme for Inland Waterway Transport*, Brussels.

COM(2010) 2020: *Europe 2020. A strategy for smart, sustainable and inclusive growth*, Brussels.

COM(2013) 623: “*NAIADES II*” – *Towards quality inland waterway transport*, Brussels.

Demonja, D. (2012): *The Importance of the Danube Strategy for Tourism and Culture Development of the Croatia Danube Region*, “*Geographica Pannonica*” vol. 16, No. 3.

Deyhle, A. (2003): *Controller-Praxis, Führung durch. Ziele – Planung – Controlling*, Band II, Verlag für ControllingWissen AG Offenburg.

Drucker, P. F. (2011): *Management challenges for the twenty-first century*. Routledge.

EU Strategy for the Danube Region, [http://ec.europa.eu/regional\\_policy/en/policy/cooperation/macro-regional-strategies/danube/#1](http://ec.europa.eu/regional_policy/en/policy/cooperation/macro-regional-strategies/danube/#1) (access: March 2016)

*Europa 2020 – Hrvatski ciljevi*, [https://vlada.gov.hr/UserDocsImages//Materijalizaistaknuto/2015/EU\\_fondovi//Prijedlog\\_teksta\\_za\\_mape\\_-\\_final\\_za\\_tisak.docx](https://vlada.gov.hr/UserDocsImages//Materijalizaistaknuto/2015/EU_fondovi//Prijedlog_teksta_za_mape_-_final_za_tisak.docx) (access: February 2016).

Europski fondovi portal, *Strateški dokumenti Republike Hrvatske 2014.-2020.*, <http://europski-fondovi.eu/strateski-dokumenti-republike-hrvatske-2014-2020> (access: January 2016).

ILO/UNWTO (2009): *Statement on Tourism and Employment*, [http://www.ilo.org/wcmsp5/groups/public/--ed\\_dialogue/-sector/documents/statement/wcms\\_162290.pdf](http://www.ilo.org/wcmsp5/groups/public/--ed_dialogue/-sector/documents/statement/wcms_162290.pdf) (access: 23.03.2016).

Institut za turizam (2014): *Studija održivog razvoja turističkih krstarenja Dunavom u Hrvatskoj*, Zagreb.

Kizielewicz J. (2016): *Environmental governance for sustainable cruise tourism development by territorial authorities and cruise ship-owners*, Proceedings of the 4<sup>th</sup> ICMLG, Sankt Petersburg.

Luković, T., Lebefromm, U. (2014): *Controlling, planom do cilja*, Druga knjiga, Sveučilište u Dubrovniku, Dubrovnik.

UN (2013): *European recreational Inland Navigation Network*, [https://www.unece.org/fileadmin/DAM/trans/doc/2013/sc3wp3/ECE-TRANS-SC3-164-Rev1e\\_01.pdf](https://www.unece.org/fileadmin/DAM/trans/doc/2013/sc3wp3/ECE-TRANS-SC3-164-Rev1e_01.pdf) (access: April 2016)

World Bank (2012): *Croatia. Policy Notes. A Strategy for Smart, Sustainable and Inclusive Growth*, Report No. 66673-HR.



**Azra Suljić, Dipl. Ing. Arh.**  
Ask atelier d.o.o.  
10000 Zagreb  
E-mail address: azra.suljic@ask.hr

**Mr.sc. Franjo Ambroš, Dipl. Ing. Geod.**  
Geoprem d.o.o.  
31000 Osijek  
Phone: 031/250-900 Fax: 031/250-901  
E-mail address: franjo.ambros@geoprem.hr

**Vladimir Drašković, Dipl. Ing. El.**  
Geoprem d.o.o.  
31000 Osijek  
Phone: 031/250-900 Fax: 031/250-901  
E-mail address: vladimir.draskovic3@gmail.com

## **INFRASTRUCTURE IN A SPATIAL PLANNING REQUIREMENT FOR REALIZATION "SLAVONIAN NETWORK"**

### **INFRASTRUKTURA U PROSTORNOM PLANIRANJU PRETPOSTAVKA ZA REALIZACIJU "SLAVONSKE MREŽE"**

#### **ABSTRACT**

*Spatial planning is one of the starting points for spatial development of the city and the region. Therefore, spatial planning is of great importance for the State, local and regional community and ultimately its citizens. Spatial planning is the basis for balanced development of specific areas and for the financing from the different sources. Often there is not enough attention for infrastructure and its representation in spatial plans. A significant amount of EU funds are planned as an incentive for the construction or reconstruction of the existing infrastructure. Construction of infrastructure without considering real needs/requirements can result in unfounded investments. Delays in planning can be an obstacle in the development of projects which are intended to be financed from EU funds. The practice in the spatial planning documents is to define the main infrastructure corridors. Engineers in their projects work on detailed planning to position the infrastructure in a functional way coordinated with other infrastructure elements. Spatial planners receive all input data for existing and planned infrastructure exclusively from utility companies. This practice should be changed, because the development of the area should not be left to chance. Input data for spatial planning as geodetic survey, cadastre, land register and cadastre of infrastructure cables are very important for physical planning of infrastructure. However, those data needs to be updated. There is a difference in planning infrastructure corridors, when there is the necessity to form a building plot or when that is not obligatory. Application of the Expropriation Act in resolving property issues on infrastructure is conditioned by the planning documents. For those reasons, the process of spatial planning needs to be improved with obligatory multidisciplinary approach and the inclusion of a larger number of spatial data.*

**Key words:** *spatial planning, infrastructure, multidisciplinary approach, resolving of property and legal relations in infrastructure.*

## SAŽETAK

Prostorno planiranje predstavlja jedno od pretpostavki i polazišta prostornog razvoja kako grada tako i regije. Stoga je prostorno planiranje od interesa za državu, lokalnu i regionalnu zajednicu i u konačnici za sve građane; ono je osnova za planiranje određenih mjera kako bi se kroz različite izvore financiranja ujednačio razvoj određenog područja. O planiranju infrastrukture i njenom prikazu u prostornim planovima često se ne vodi dovoljno računa. Značajna sredstva Europske unije planirana su kao poticaj za izgradnju ili rekonstrukciju postojeće infrastrukture. Izgradnja infrastrukture mimo sagledavanja potreba prostora može rezultirati neracionalnim ulaganjem. Propuštanje pravovremenog planiranja može biti prepreka u pripremi projekata koji se namjeravaju financirati iz EU fondova. Praksa u izradi prostorno planske dokumentacije je rezervacija koridora za glavnu/magistralnu infrastrukturu dok se detaljnija prepušta projektantima kako bi infrastrukturu smjestili u prostor na funkcionalan način, a položaj uskladili s ostalom infrastrukturom. Podatke o planiranju infrastrukture prostorni planeri dobivaju isključivo od postojećih upravitelja infrastrukture. Ovu praksu bi morali mijenjati, jer razvoj područja ne treba prepuštati slučaju. Ulazni podaci na kojima se temelji prostorno planiranje kao što je geodetska osnova, katastarski i zemljišnoknjižni podaci o nekretninama te podaci katastra vodova veoma su važni za prostorno planiranje infrastrukture pa se mora ocijeniti njihova aktualnost. Planiranje koridora za infrastrukturu razlikuje se ako za infrastrukturu treba formirati građevinsku česticu u odnosu na slučaj kada se za predmetnu infrastrukturu ne planira formiranje građevinske čestice. Primjena Zakona o izvlaštenju u rješavanju imovinskopravnih odnosa na infrastrukturi uvjetovano je prostornoplanskom dokumentacijom. Iz navedenih razloga proces prostornog planiranja je potrebno unaprijediti uz obvezan multidisciplinarni pristup i uključivanje većeg broja prostornih podataka.

**Ključne riječi:** *prostorno planiranje, infrastruktura, multidisciplinarni pristup, imovinskopravno uređivanje infrastrukture.*

### 1. Introduction

Starting with definition of spatial planning according to Law on spatial planning (Official Gazette 2013.) „*spatial planning as interdisciplinary activity is an institutional and technical form for managing spatial dimension of sustainability, which by the assessment of developing possibilities under its space speciality, its protection, its environmental quality and purpose, purpose is determined;*”, criteria for development of infrastructure are positioning in space, conditions for urban changing and sanitation of built areas with conditions for planned spatial constructions“ we emphasize interdisciplinary. Space as limiting resource of human activities shouldn't be arbitrary used or devastated. Space planning emphasizes role of infrastructure.

Law on spatial planning in definitions induces three infrastructure related terms: **Basic infrastructure** is traffic surface which grants access to building parcels, buildings, public parking lots, buildings for waste water drainage and low electro energetic network; **communal infrastructure** represents buildings for clear water supply, maintenance, collecting and treating communal waste, street lightning, markets, cemeteries, crematoriums and public surfaces in populated places; and **infrastructure communal, traffic, energetic, water, sea, communication, electronic communication and other buildings made to coordinate with natural and artefact goods.** In wider context, infrastructure could be considered as buildings of public and social purpose.

By analysing legal terms we find variety of interpretation in defining infrastructure. Focusing this paper on defining infrastructure as communal traffic, energetic, water, sea, electronic communication and other buildings made for managing other kinds of social and artefacted goods, we come to terms: roads, rail, airports, ferries, lines for energy supply (electrical, gas, steam line, oil line), water supply, pipelines, sewerage systems and electronic communication infrastructure (telecommunication, radio, television), which are regulated in Republic of Croatia by several laws. It is important to emphasize that every infrastructure, excluding public lightning, is defined as special interest infrastructure for Republic of Croatia, regardless of private ownership. Technological innovations in electronic communicational infrastructure put challenges in front of spatial planners. Development of technology in electronic communication affects citizens in commodity and economical activities. Investing in broadband Internet is in correlation with increase of brutto national product.

Depending on plan's purpose, space for infrastructure is reserved. If detailed graphic display is possible, infrastructure's position is shown. Otherwise, detailed position of infrastructure should be defined in text.

Preliminary design „Slavonian network“ is initial document (Mesarić and all.) that plans activities in area of 5 Slavonija – Baranja counties (Brodsko posavska, Osječko baranjska, Požeško slavonska, Virovitičko podravska, Vukovarsko srijemska), as preparation to build broadband infrastructure to ensure development of Eastern Croatia. It is important to point to condition of spatial plans, as an barrier to intensive investment.

## **2. Types of spatial plans and interpretation of infrastructure**

Sorts and ways of spatial plans are determined by Law in spatial planning and Rule book on content, scale of cartographic displays, spatial displays and standards of papers on spatial planning.

- County spatial plan on topographic map in scale 1:100 000
- Spatial plan of City of Zagreb on topographic map in scale 1:25 000
- Spatial plan of special areas on topographic map in scale 1:100 000 and/or 1:25 000 or on state map in scale 1:5 000 and/or 1:10 000 depending on marks and surface of plan
- Spatial plan of city or municipality on topographic map in scale 1:25 000, with building areas on cadastral plan in scale 1:5 000
- Masterplan plan on state map in scale 1:5 000 and/or 1:10 000
- Urbanistic plan of order on state map in scale 1:5 000 or topographic – cadastral plan in scale 1:1 000 or 1:2 000
- Detaild plan of order on topographic – cadastral plan, or cadastral plan in scale 1:1000 or 1:500

Law on spatial planning (Official Gazette 2013.) has defined plans at a higher level: State plan for urban growth, Spatial plan for special areas, Urbanistic plan of order by state's significance, with expecting new Rule book on plan displays and ISPU function (URL 1), which coordinates relevant regulation on spatial plan displays.

Spatial plans generally show infrastructural corridors, which are brought by referring georefferential information to interested party (an expert) from infrastructural manager for existing and planned infrastructural objects. In case this information exists in analogue form, or there is inadequate base, precision of entering data into spatial plan decreases. Infrastructure is grouped into several cartographic displays, depending on region development. Electronic communication has its own cartographic representation or comes with postal infrastructure (Picture 1)

Infrastructure is listed in textual part of spatial plans, in Regulations of implementation and explanation, where it's characteristics, capacities and development is listed, with basic elements,

propositions and general conditions for projecting. Unfortunately, due to regulatory changes, or lately coordination with EU regulative, implementation of regulation used in spatial plans gets out - dated.

While county's spatial plan shows infrastructure lines of county's interest, increasing scale of cartographic display, shows completed network in more detailed way. At detailed urban plan, every household connection is shown. Contemporary Law on spatial plan doesn't consider as detailed display, and infrastructure development is left for chartered engineer to show.

In case of digital, georefferential data, information is easy to implement at any scale. Problem may occur when spatial plan doesn't contain more detailed network than 35 kV power line, water supply and sewage and small profile drainage. In that case, investor or designer doesn't have complete information, and needs extra time to collect data.

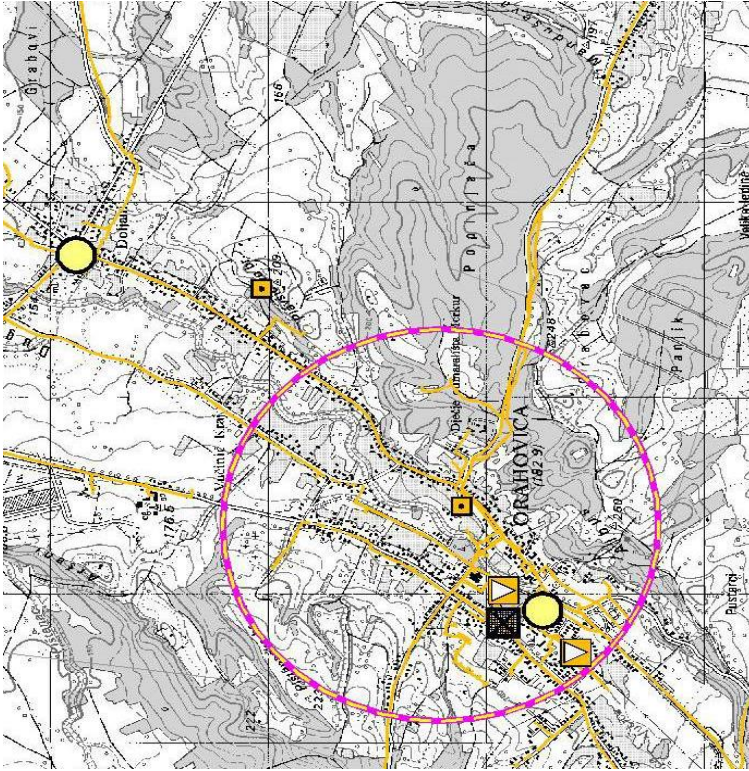
Implementing plans brings also bring detailed displays of infrastructure, defining minimum distances in traffic infrastructure profiles.

Special attention is brought to planning infrastructure development in protected environment areas, because of their natural, cultural or historical marks, or in coastal area (Law on spatial organization). That is primarily shown in challenging soils or in historical areas, which don't have capacities to expand infrastructurally, and calibrating means expensive operations in valuable sidewalks.

Obstacle in planning infrastructure presents inability to follow technological innovations in spatial plans making, regarding long procedures of making and executing, which is case in electrical communication. Also, collecting data on infrastructure of some space still isn't functional. National infrastructure data collection doesn't exist, uniform data base isn't active (Croatian Regulatory Authority for Network Industries for instance, has strategic goal to „build effective, united informational system“). Slow process of changing spatial plans hasn't still lead to application of Regulation on developing electronic information infrastructure and other gear (Official gazette, 2012.), so until adjustment with documents of spatial organization, this rule applies directly.

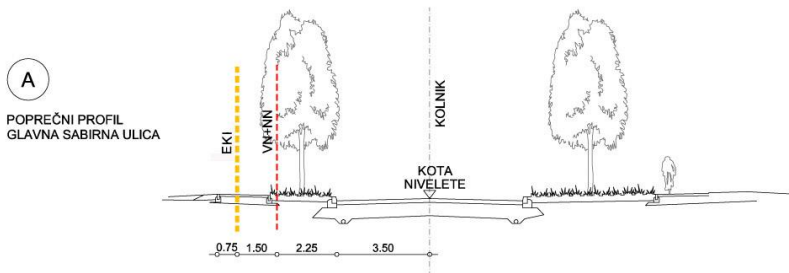
*Picture 1 Cartographic display detail 2.2. Electronical communication spatial plan of city of Orahovica*



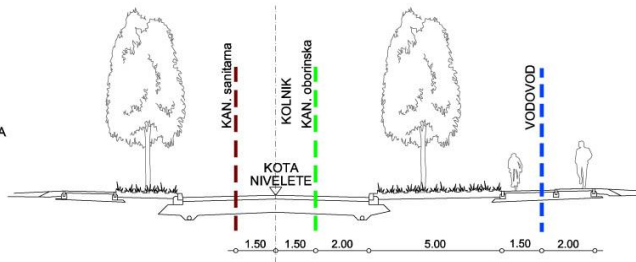


Source: authors

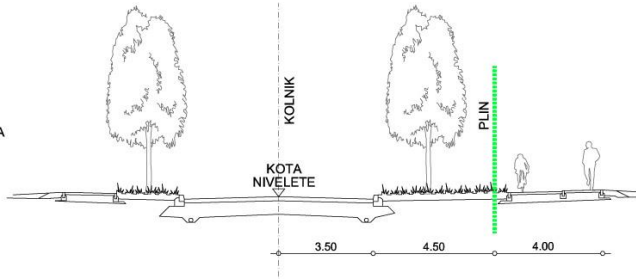
**Picture 2** Cartographic display detail of infrastructure urban plan, part of Andraševac – Oroslavje municipality



A  
POPREČNI PROFIL  
GLAVNA SABIRNA ULICA



A  
POPREČNI PROFIL  
GLAVNA SABIRNA ULICA



Source: authors

Spatial planning especially in infrastructural domain, is dependable on different data basis, their correlation and interdisciplinary cooperation.

Although RC Strategy predicts application of principles „uniting spatial infrastructural corridors, where possible“, which is hard to fulfil even with magistral lines, because of wideness of protective corridors, where building isn't allowed, or it is necessary to get special conditions.

### 3. Actuality of surveying basis and cadastre of lines for validity of spatial planning

Actuality of data on which spatial planning is grounded is very important part of spatial planning. There are two segments important for state, space and inhabitants. Investing into broadband focuses both people and economy. Building of electronic communicational infrastructure is set in space. Role of spatial planning is to predict locations of people and economic activities, and to adjust infrastructure on time in that space. If data that influence spatial planning are out-of-date, mistakes can be great. Problematizing cartographic documentation data from line record is more elaborated in paper Land survey base for spatial planning (Ambroš et al. 2010.) Necessity to regulate ownership relations on real estate upon infrastructure objects that are to be built, puts additional challenge on front of spatial planners. Role of spatial planning is not legislative regulation, but it occurs in its realization. This problem is very clear in line infrastructure, because it doesn't require forming its parcel, legal regulation is settled with law of servitude. Mismatching in public records of real estate, such as of possession and ownership, brings to delay, which reflects in almost every project in Republic of Croatia.

### 4. Spatial plans in “Slavonian network” area of realization

Contemporary spatial plans are very important to build infrastructural project “Slavonian network”. Analysing spatial plans of all 5 counties of Eastern Croatia there can be seen different approaches of

models by spatial planners. Besides pointing to different technological details, there has been variety of space organization, such as neglecting impacts of infrastructure on ecology, tree lines, agricultural and forest surfaces. In this paper we affirmatively analyse spatial planning conditions for realization of project “Slavonian network”, especially rules that define position of electronic communication infrastructure, lines and positioning of cabinets for active and passive equipment.

#### **4.1 Spatial plans in Osječko – baranjska county**

In Osječko – baranjska county there are 7 cities and 35 municipalities. Current spatial plans have been brought in period between 2003. and 2012. Analysing points to the fact that all of cities and municipalities in text part have corridor enabled to put new ECI in green field zones and sidewalks, mostly by every side of traffic road, with varieties. Almost no plan mentions positioning cabinets for equipment by existing and future corridors ECI for future distribution nodes prescribed by Rule book on optic distribution networks. No plan has graphic display of corridors for new ECI. No plan mentions possibility of integrated infrastructure, which would reduce building expenses and improve rational use of space. (URL 2)

#### **4.2 Spatial plans in Vukovarsko srijemska county**

In Vukovarsko – srijemska county there is 5 cities and 26 municipalities. Current spatial plans have been brought in period between 2004. and 2007. Analysing points to the fact that four cities and 18 municipalities in text part have corridor enabled to put new ECI in green field zones and sidewalks, mostly by every side of traffic road, with varieties. In plans of 6 municipalities and one city there had been mentioned modernization of phone network, but without clearly defined corridor in space, which could result in problems getting building permit, and in 2 municipalities there is no mention of building new ECI in building zones. Almost no plan mentions positioning cabinets for equipment by existing and future corridors ECI for future distribution nodes prescribed by Rule book on optic distribution networks. No plan has graphic display of corridors for new ECI. No plan mentions possibility of integrated infrastructure, which would reduce building expenses and improve rational use of space. (URL3)

#### **4.3 Spatial plans in Brodsko posavska county**

In Brodsko – posavska county there is 2 cities and 26 municipalities. Current spatial plans have been brought in period between 2001. and 2014. Analysing points to the fact that one city and 19 municipalities in text part have corridor enabled to put new ECI in green field zones and sidewalks, mostly by every side of existing and planned traffic road. In plans of 3 municipalities and one city there had been mentioned modernization of phone network, but without clearly defined corridor in space, which could result in problems getting building permit, and in 5 municipalities there is no mention of building new ECI in building zones. No plan mentions positioning cabinets for equipment by existing and future corridors ECI for future distribution nodes prescribed by Rule book on optic distribution networks. No plan has graphic display of corridors for new ECI, 3 plans mention possibility of building integrated infrastructure. (Source URL 4)

#### **4.4 Spatial plans in Požeško - slavonska county**

In Požeško - slavonska county there is 5 cities and 5 municipalities. Current spatial plans have been brought in period between 2005. and 2012. Analysing points to the fact that three cities and 4 municipalities in text part have corridor enabled to put new ECI in green field zones and sidewalks, mostly by every side of existing and planned traffic road. One plan mentions graphic line display,

but there is none, which could generate problems in getting building permit, for one town and municipality there is no public display on WWW. No plan mentions positioning cabinets for equipment. No plan had graphically displayed corridors for new ECI. Only two plans mention possibility of building integrated infrastructure which would reduce building expenses and improve rational use of space. (Source: URL5-12)

#### **4.5 Spatial plans in Virovitičko - podravska county**

In Požeško - slavonska county there is 3 cities and 13 municipalities. Current spatial plans have been brought in period between 2003. and 2015. Analysing points to the fact that three cities and 11 municipalities in text part have corridor enabled to put new ECI in green field zones and sidewalks, mostly by every side of existing and planned traffic road, with variations. Two plans mention graphic line display, but they had not been planned, which could generate problems in getting building permit, Two plans mention positioning cabinets for active and passive equipment by existing and future corridors ECI for future distribution nodes prescribed by Rule book on optic distribution networks, or to shorten path by telecom operator. No plan had graphically displayed corridors for new ECI. No plan mentions possibility of building integrated infrastructure which would reduce building expenses and improve rational use of space. (Source: URL13)

#### **4.6 Review on “Slavonian network” in spatial plan possibility for new ECI**

Analysing spatial plans in five Eastern Croatia counties shows preparedness of documents in building new ECI (table 1).

### **5. Regulation on implementing ECI and its equipment**

Government of Croatia brought Regulation on measuring development of electronic communication infrastructure and related equipment (Official gazette 2012) which prescribes measurement of development of electronic communication infrastructure, considering measurements for implementation, planning in spatial documents, in part regarding to electronic communication infrastructure. Regulative in paragraph 2. prescribes Applying rules of building integrated infrastructure.

- (1) Building ECI is generally planned within corridor route of communal infrastructure (further: principle of building integrated infrastructure)
- (2) Principle of building integrated infrastructure coordinates planned routes of ECI and related equipment with routes of communal infrastructure regarding positioning in space and deadlines of building.



*Table 1 Analysis of spatial plan organization*

	Ukupan broj JLS-ova (gradovi i općine)	Osiguran EKI koridor	Djelomično osiguran EKI koridor	Nema osiguranog koridora	Mogućnost postavljanja uličnih kabineta	Mogućnost gradnje Integrirane infrastrukture
OBŽ	42	42	0	0	0	0
VSŽ	31	22	7	2	0	0
BPŽ	28	20	3	5	0	3
PSŽ	10	7	2	1	0	2
VPŽ	16	14	0	2	2	0
UKUPNO	127	105	12	10	2	5

(3) Common use of corridors and/or space with purpose of building integrated infrastructure is planned in strategic documents of space organization

Furthermore, Regulation proscribes:

- Building and/or reconstruction of ECI and related equipment is planned underground, following traffic corridors, railways and other infrastructure. Exceptionally, in purpose of shortening route, corridor can be planned outside of traffic or railway corridors, within framework of spatial organization documentation
- With spatial planning documentation ECI is planned with related equipment in a way that doesn't restrict electronical communication network and electronical communicational infrastructure
- In executive files of spatial plan documents there has been planned to set street boxes or containers. Street boxes are set by fences or buildings, in route line of ECI. If distance from fence or an object is more than three lengths of street box, it can be installed by the sidewalk.
- Routes of cable canalization are planned underground in walking zones or green areas, wherever possible, or by principle of integrated infrastructure.
- Routes of cable canalization are planned on both sides of street in building area, and on one side of the street out of building area.
- In executive files of spatial plan documents of cable canalization there has been perspective to connect buildings to ECI with other communal connections
- Building cable canalization can be performed with mini and micro trench
- If in the area of planned optical distributional network there is no executive document of spatial organization, or that document doesn't contain planned locations of distributional nodes, distribution node is set in street cabinet over existing cable canalization.
- Local governments are obligated to coordinate acts of spatial organization documentation within its working area with Regulation when constituting, or after admission

- Until acts of spatial organization documentation are coordinated with Regulation, Regulation is valid

## **6. Importance of spatial planning for legal relations with real estate owners**

For some type of infrastructure (roads, railway and so on) require forming its parcel. Structural parcel is formed by reshaping existing cadastral parcels. Legal actions with previous owners imply agreement or expropriation. For other types of infrastructure, structural parcel does not form. Legal action implies agreement or expropriation within Law on expropriation and fee taxation (Official gazette 2014.). Spatial plan has a major role in expropriation. One of documents to start process of expropriation is valid location permit, which is reserved in space with spatial planning documentation.

## **7. DIRECTIVE 2014/61/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL On measures to reduce the cost of deploying high-speed electronic communications networks**

In May 2014. EU has voted for measures to reduce the cost of deploying high-speed electronic communications networks with obligation for local government to invest in broadband access more economical. Biggest part of investment is construction work (Ambroš et al. 2013.), so proposed building should be within principle of integrated infrastructure. It is consequence is for EU member states to have Record of lines (Utility cadastre), which has been legal obligatory in Croatia since 1973. This should result in forming a repository of Utility cadastre state level and establishing construction work registry (excavation for lines). Deadline for implementation of these obligations is 01. January 2017.

## **8. Proposition of infrastructure display on spatial plans**

It is risky to graphically display planned corridors of ECI in spatial plans, for in case of oversight may be problems in getting building permit. We suggest that corridors should be defined narratively, as it has been practiced. Description must be coordinated with Regulation. According to graphical display of existing and planned ECI, Regulation states:

“In process of making spatial plan of counties, City of Zagreb, cities and municipalities and general urbanistic plans, infrastructural operators are obligated to deliver positioning of existing and planned electronic communication infrastructure and related equipment with routes of main cables, intercounty and international connections and nodes of electronic communicational networks and their connections in fixed communication network.

Since infrastructural buildings are basically lines built in reserved spatial corridors, spatial plan should accept this in implementation. Single levels of spatial planning should specifically determine reservation of space for every single infrastructure, with graphic display if necessary.

## **9. Conclusion**

After analysing all available spatial plans of five Slavonian counties we can conclude:

In light of building new ECI, out of 127 local government bodies, it is not possible to build in 10 of them, which is optimistic statistic. Larger issue could be lack of mentioning street cabinets in spatial

planning documentation, which could lead to problems in getting building permit, if executive body interprets documentation literally.

To get building permit it is important to insist in applying Regulation on measuring development of electronic communication infrastructure and related equipment, which could lead to delay in getting building permit. If project is funded by EU, it could jeopardize realization within time framework. Furthermore, some companies that carry out spatial plans are not familiar with Ordinance on spatial organization in planning ECI, which was released by Croatian Post and Electronic Communications Agency as well with Regulative which was voted by Croatian government 21. November 2012. This could be justified with plans originated before and after these acts, yet not coordinated altogether.

By Law on electronic communication (Official gazette 2008.) electronic communicational infrastructure, its building, maintenance, development and usage is of special interest for Republic of Croatia, and as such it should be emphasized in implementing spatial plans, because of its role in improving economy, quality of life, environment, health, not creating obstacles in electronic communication development and open market. When making spatial plan, one should be guided by positive legal acts in that area. One should keep in mind inclusion of local government in planning and building electronic communication infrastructure as a part of integrated building of communal infrastructure. In that scenario, costs of building infrastructure minimize with improvement of life quality and economy.

Good spatial plans facilitate decisions for investors to fund in electronic communication infrastructure, which improves observed territory and allows broadband access for every beneficiary in Republic of Croatia. Every investment made by operators would reduce expenses for local government, who could redirect funds to other projects.

## REFERENCES

Ambroš, F. Slivac, V.; Suljić, A.; Ambroš, L.: Posebna geodetska podloga u prostornom planiranju, 3. Simpozij ovlaštenih inženjera geodezije, HKOIG, Opatija, 2010. (rad u zborniku)

Ambroš, F.; Ivanović, M.; Mesarić, D. (2013.): Izgradnja komunalne infrastrukture i razvoj optičke mreže na području Slavonije i Baranje; 4<sup>th</sup> International Conference "PLIN '2013"; Osijek, (rad u zborniku).

Direktiva 2014/61/EU Europskog parlamenta i Vijeća o mjerama za smanjenje troškova postavljanja elektroničkih komunikacijskih mreža velikih brzina, Bruxelles, Službeni list Europske unije L 155/1, 2014.

Mesarić, D. Ambroš, F. Ivanović, M. : Slavonska mreža, idejni project, Elektrotehnički fakultet Osijek, 2013.

Narodne novine (1998): Pravilnikom o sadržaju, mjerilima kartografskih prikaza, obveznim prostornim pokazateljima i standardu elaborata prostornih planova, 106/98,39/2004, 45/2004, 163/2004, 9/2011, Zagreb

Narodne novine (2008): Zakonu o elektroničkim komunikacijama, 73/2008, 90/2011, 133/2012, 80/2013, 71/2014, Zagreb

Narodne novine (2012): Uredbe o mjerilima razvoja elektroničke komunikacijske infrastrukture i druge povezane opreme, 131/2012, 92/2015, Zagreb

Narodne novine (2013): Zakon o prostornom uređenju, 153/2013, Zagreb

Narodne novine (2014): Zakon o izvlaštenju i određivanju naknade 74/2014, Zagreb

Smjernice za prostorno uređenje u dijelu planiranja elektroničkih komunikacija, HAKOM (Hrvatska regulatorna agencija za mrežne djelatnosti), Zagreb, 2011.

URL 1: [www.ispu.mgipu.hr](http://www.ispu.mgipu.hr)

URL 2: <http://www.prostorobz.hr/planovi.htm>

URL 3: <http://www.vusz.hr/info/prostorni-planovi>

URL 4: [http://bpzzpu.hr/index.php/dokumenti/cat\\_view/5-prostorni-planovi.html](http://bpzzpu.hr/index.php/dokumenti/cat_view/5-prostorni-planovi.html)

URL 5: <http://www.pozega.hr/prostorni-plan-uredenja-grada.html>

URL 6: <http://www.pleternica.hr/prostorni-plan-uredenja>

URL 7: <http://www.kutjevo.hr/index.php/prostorni-planovi>

URL 8: <http://www.brestovac.hr/prostorni-plan.html>

URL 9: <http://www.jaksic.hr/prostorni-planovi.html>

URL 10: <http://www.opcina-kaptol.com/prostorni-plan-ureenja-opine-kaptol.html>

URL 11: <http://www.opcina-velika.hr/dokumenti#prostorni-plan>

URL 12: [http://lipik.hr/cmsgalerije/sadrzajdrag\\_dokument21slika.pdf](http://lipik.hr/cmsgalerije/sadrzajdrag_dokument21slika.pdf)

URL 13: <http://zpuvpz.hr/prostorni-planovi-na-podrucju-viroviticko-podravske-zupanije/>

**Dejan Tubić, Ph.D.**

College of Tourism and IT Management in Virovitica  
Matije Gupca 78, 33000 Virovitica  
Phone: 098/ 955 6906; Fax: +38533721037  
E-mail address: dejan.tubic@vsmti.hr

**Božidar Jaković, MB Econ.**

College of Tourism and IT Management in Virovitica  
Matije Gupca 78, 33000 Virovitica  
Tel: +38533 492261; Fax: +38533721037  
E-mail: bozidar.jakovic@vsmti.hr

**Rikard Bakan, MB Econ.**

College of Tourism and IT Management in Virovitica  
Matije Gupca 78, 33000 Virovitica  
Tel: +38533 492274; Fax: +38533721037  
E-mail: rikard.bakan@vsmti.hr

**CULTURAL TOURISM: THE BACKBONE OF THE UPCOMING TOURISM  
DEVELOPMENT IN EASTERN CROATIA**

**KULTURNI TURIZAM: OKOSNICA BUDUĆEG TURISTIČKOG RAZVOJA  
U ISTOČNOJ HRVATSKOJ**

**ABSTRACT**

*Contemporary tourists have profound implications for all socio-economic sectors, including the tourism as the fastest growing global industry. In accordance with those trends, there occur changes in the affinities and preferences of the 'new' tourism consumers, which in the end resulted in the development of special forms of tourism, the most notable of which is the cultural tourism. As the terms cultural tourism and 'cultural' tourist are considered to be relatively new terminological terms in Croatian academic community, but also in the sector of tourism in general, it seems legitimate to provide a concise theoretical analysis of this special type of tourism. In order to ensure the most relevant theoretical comprehensions and conclusions possible, this work will use the scientific method of analysis and synthesis, as well as the historical and descriptive method. Since the cultural tourism itself is a narrowly specialized market niche and is characterized as a dominant touristic product which is being given a considerable attention during the past decade in Croatia, one of the primary goals of this work is to provide an analysis and an overview of the most recognizable cultural resources in eastern Croatia which show good examples of the connection of culture and tourism and which could be an incentive to put tourism and other less-known cultural resources into function. In order to indicate the importance of cultural tourism as the backbone of still not sufficiently developed touristic areas of eastern Croatia, an empirical research will be made whose main purpose is to determine the current state of tourist and cultural resource base but also the main limiting factors from the aspect of the co-creators of national tourism policy. In order to collect primary data on a convenient sample, the method of in-depth interview will be used. The aim of this work is to define the main guidelines for the development of tourism, based on the valorisation of cultural resources*

*of Eastern Croatia, with the purpose of advising the Ministry of tourism of the Republic of Croatia about promoting the cultural tourism.*

**Keywords:** *contemporary trends, cultural tourism, cultural tourists, eastern Croatia, cultural resources*

## **SAŽETAK**

*Suvremeni turisti imaju duboke implikacije na sve društveno-ekonomske sektore, pa tako i na turizam kao najbrže rastuće globalne industrije. Sukladno tim trendovima dolazi do promjena u afinitetima i preferencijama „novih“ turističkih potrošača, što je u konačnici rezultiralo razvojem posebnih oblika turizma, među kojima se posebno ističe kulturni turizam. Kako su kulturni turizam i „kulturni“ turist relativno novi terminološki pojmovi u hrvatskoj akademskoj zajednici, ali i u turističkom sektoru općenito, u ovom članku čini se opravdanim pružiti sažetu teorijsku analizu ove posebne vrste turizma. U svrhu osiguranja što relevantnijih teorijskih spoznaja i zaključaka koristit će se znanstvenim metodom analize i sinteze, povijesnom metodom i deskriptivnom metodom. Budući da je kulturni turizam sam po sebi usko specijalizirana tržišna niša te je u Hrvatskoj okarakteriziran kao dominantni turistički proizvod kojemu se unazad jednog desetljeća pridaje značajna pozornost, jedan od primarnih ciljeva ovog rada je pružiti analizu i pregled najprepoznatljivih kulturnih resursa u istočnoj Hrvatskoj koji su dobri primjeri spoja kulture i turizma te bi mogli biti poticaj stavljanja u funkciju turizma i ostalih, manje poznatijih kulturnih resursa. Kako bi se osvijestila važnost kulturnog turizma kao okosnice budućeg turističkog razvoja još uvijek turistički nedovoljnog razvijenog područja istočne Hrvatske provest će se empirijsko istraživanje sa osnovnom svrhom utvrđivanja postojećeg stanja turističko-kulturne resursne osnove, ali i glavnih ograničavajući razvojnih faktora s aspekata sukreatora nacionalne turističke politike. U svrhu prikupljanja primarnih podataka na prigodnom uzorku koristit će se metoda dubinskog intervjua. Cilj rada je na osnovu valorizacije kulturnih resursa istočne Hrvatske, definirati glavne smjernice razvoja turizma, sa svrhom preporuke Ministarstvu turizma RH u promoviranju kulturnog turizma RH.*

**Ključne riječi:** *suvremeni trendovi, kulturni turizam, kulturni turisti, istočna Hrvatska, kulturni resursi*

### **1. Introductory considerations**

Throughout the past few decades, globalization as an occurrence of a planetary scale has had profound implications on all aspects of tourism as the fastest growing phenomenon of the 21st century, regardless of its type and form. Jelušić (2009a, 7) defines globalization as a growing integration of economies and societies worldwide and a complex process which influences many, if not all aspects of life. From the economic point of view, in the Dictionary of Tourism we can find a term which defines globalization as an increase in the interdependence of markets and production in different countries through the trade of goods and services, free flow of capital, international strategic agreements and various forms of organizations and the exchange of technology (Vukonić, Čavlek, 2001, 107). Global economic trends have consolidated the local, regional and national markets into a single global market, which resulted in changes in the tourist demand and offer. Elaborating on the previously stated facts, Geić (2011) adds that only the most capable ones will survive in the conditions of globalization. Considering the stated thesis, in order to achieve a certain success on the global market, the most desirable tourist destinations are the ones that base their tourist offer on the universal attractiveness and build the development of products and services on a market flexibility. This is due to the fact that, as stated by Pavlić (2004), the competitiveness in the tourism market is becoming increasingly tougher, not only among the countries of a certain region, but also among the regions on

a global scale. From the standpoint of the tourist demand, the improvement of the living standards and the processes of globalization taking place in the tourism market have considerably influenced the behavioral changes of tourism customers, who have affirmed the new needs and changed their attitudes towards the quality of the tourism product (Vrtiprah, 2006). Contemporary tourists travel more often, but also less longer than before (Čavlek, 2011), they are experienced and individual consumers (Jadrešić, 2001; Jadrešić, 2010), also active and demanding ones (Blažević, 2007), they are environmentally conscious (Križman Pavlović, 2008), unpredictable, spontaneous, as well as independent. They want to experience new, more substantial tourist experiences (Vrtiprah, 2006), they are focused on the nature and culture of the destination (Jadrešić, 2010) and alike. The changing preferences of the contemporary tourism customers lead to the development of special types of tourism, the most prominent of which is the cultural tourism.

## **2. Theoretical considerations: What is cultural tourism?**

Cultural tourism as a syntagme and a market niche of the global market is being given an increasingly significant scientific attention in the academic community in the last few decades (Vong, 2013). However, there is no single, standardized definition of cultural tourism, which is confirmed by Tomljenović (2006), Pančić Kombol (2006), Hennessey et al. (2008), Razović (2009), Jelinčić (2010), Demonja (2011) and Csapó (2012). Elaborating on the stated facts, Gajski et al. (2011) remark that the significance of cultural tourism as a syntagme has been significantly altered in the past few years. A common position on a number of terminological determinations, according to Richards (1996) is that the cultural tourism consists of the cultural tourist's consumption. In this specter of definitions, it is important to emphasize that the most used definition in Europe is the double definition by the European Association for Tourism and Leisure Education (hereinafter referred to as ATLAS), i.e. conceptual (C) and technical (T), as confirmed by Tomljenović (2006) and Razović (2009). According to Richards they are:

- **C:** cultural tourism represents all trips which include the visits of cultural attractions outside the place of residence with the goal of acquiring new knowledges and experiences that meet the cultural needs of the individual.
- **T:** cultural tourist trips are all trips made outside of the place of residence that include visits of specific cultural attractions, from historical heritage to artistic and cultural events, museums and theatres.

Elaborating on the facts emphasized, Zhang (2011) also points out that even within modern forms of tourism, the culture is a typical representative of the tourist destination, which plays an important role in attracting the tourism consumers, or in increasing the value of cultural heritage in general. Since modern tourism as a mass and global phenomenon is marked by an emphasized seasonal character (Čorak i Trezner, 2014), tourist destinations upgrade the basic tourist offer by modifying the existing and designing new cultural tourism products and services, and thus prolong the tourist season, increase the tourist demand and, finally, promote the image of the tourist destination as a desirable and an attractive tourist destination.

### **2.1. Who are “cultural” tourists?**

In the scientific and professional studies of cultural tourism as a complex phenomenon, it is necessary to analyze the figure of a “cultural” tourist (Csapó, 2012) because the complexity of defining the term cultural tourism is also being reflected on the complexity of the notion of a “cultural” tourist (Tomljenović, 2006, 122; Geić, 2011, 313). Numerous tourism theorists (e. g. Mckercher and du Cros, 2002; Nyaupane and Andereck, 2007; Hennessey et al. 2008; Jelinčić, 2009a) have studied the topic of a “cultural” tourist but the further continuation of this work will be based on the concise description of a profile of the “cultural” tourist. Tomljenović et al. (2011) claim that the demand for

culture is equally recognized in tourism as well as in the cultural sector and thereby especially assert that the “culturally” oriented tourists are extremely attractive consumer groups for a tourist destination as a market segment. The reason for that is visible in the perception of cultural tourists as highly educated individuals, as well as in the greater purchasing power, appropriate leisure time and an increased awareness and interest for culture as an attraction base.

### **3. Cultural-historical heritage as a resource base of the tourism product**

Natural, cultural and historical heritage, with a special emphasis on architecture, provide the tourist destination with a certain authenticity, make it distinctive and different and represent the resources on which certain tourist destinations can base their tourist offer and competitive advantage in relation to other destinations (Vrtiprah, 2006). Even when they do not represent the primary motive for the arrival of guests, such resources certainly complement the tourist destination in a unique way and precisely such resources are very significant and essential in the differentiation of tourist destinations. In order for the tourist destination to develop a quality cultural tourism product, two basic prerequisites have to be satisfied. One of them is the existence of the tourist demand, while the second one is related to the existence of cultural resources, which are the main input for the creation of a cultural tourism product (Cultural Tourism Development Strategy, 2003). Cultural heritage is created and activated in the real sense only by the process of conservation and special design, which makes them cultural resources in the function of tourism. The consumption itself is realized only when the tourist attractions are made touristically attractive and shaped as products which are offered in the tourist market at a certain price (Pančić-Kombol, 2006). Looking from the point of view of the subject of cultural product offer, we rarely speak about just one product of culture but about more of them, which together form a complex “production and sales program”. From the aspect of cultural-historical heritage, the tourist product can be divided into following groups: stationary tourism (stay and recreation), religious tourism (pilgrimages) and excursion tourism (round trips, thematic trips) (Gredičak, 2008, 218), while the cultural resources as an offer in tourism can be shaped and presented in three ways (Pančić-Kombol, 2006):

- cultural activities – touring and participating in the sightseeing of historic areas, cities, museums, theaters, concerts, manifestations, events and alike
- mechanical – in broadcasts and cinemas
- forms that are sold – books, paintings handicrafts

In order for the cultural tourism product to be developed at all, there must be a willingness for the cooperation among the representatives of the facilities of cultural heritage and cultural events and the representatives of the tourist trade. A problem has been noticed in the lack of an intensive information flow, which represents an obstacle for a more effective partnership of all participants that create the competitiveness of the tourism product (Gredičak, 2009).

### **4. Cultural resources in the function of tourism in Eastern Croatia**

An analysis of cultural and historical resources made for the purposes of the Cultural Tourism Development Strategy of the Republic of Croatia from the year 2003 has shown that compact urban and rural historic sites, UNESCO’s sites and sites that have a potential of becoming international tourist attractions (Jelinčić, 2009b) are very strong points for the development of cultural tourism in Croatia. Heritage holdings in the Republic of Croatia have emerged in three different geographical zones- the coastal, mountain and lowland zone, which have caused different historical circumstances in the economic, social and cultural development (Strategy of Protection, Conservation and Sustainable Economic Use of Cultural Heritage of the Republic of Croatia 2011-2015, 2011). The richness of the Croatian cultural and historical heritage makes a great power of the Croatian resource and attraction base. The evidence for that is a great number of cultural goods under the protection of



UNESCO as well as a number of individual buildings in well-preserved historical complexes of numerous Croatian cities/places (Croatian Tourism Development Strategy until 2020, 2013). Croatia possesses interesting historical urban sites which could be reconstructed and presented in a way that touristically developed Europe already presents theirs. Likewise, cultural tourism of the rural area, i.e. the villages, designed as a targeted activity where the attention of the owner and the visitors is aimed at the interests of an individual, not at the mass and attractiveness of the destination, also possesses a good potential and a resource base. Cultural goods that are registered and preventively protected are surely destinations of the current or the future tourist offer (Galiot Kovačić, 2008). Therefore, they need a special care in order to be preserved and used sustainably for commercial purposes. The register of cultural goods in Croatia is under the maintenance of the Ministry of culture which presents the current state that is constantly changing. According to the Strategy of Protection, Conservation and Sustainable Economic Use of Cultural Heritage of the Republic of Croatia, the register includes 8,2017 heritage objects/localities. Croatia has numerous compact urban and rural historic units, UNESCO sites – potential international tourist attractions, a range of quality cultural institutions (museums, theaters, cinemas, libraries, state archives etc.), an affluence of intangible cultural heritages, legends, myths and artistic events that can be “intertwined” with almost every tourist site and thus become a tourism story (Demonja, 2011). According to the number of cultural goods on UNESCO’s lists, Croatia shares the first place in Europe together with Spain, and at the world scale, only China, Japan and South Korea have more cultural goods, which is practically unbelievable if the size and population of those countries is taken into consideration (National catalogue of rural tourism in Croatia, 2015, 13). There are also two intangible cultural goods of Eastern Croatia on UNESCO's list – Bečarac (vocal and instrumental tune from the areas of Slavonia, Baranja and Srijem), as well as the annual Spring procession of Ljelje/Kraljice (queens) from Gorjani. In addition, other intangible cultural goods such as svatovac (traditional vocal and instrumental tune from the areas of Slavonia, Baranja and Srijem), the art of decorating squashes from the area of Slavonia, the preparation of traditional Slavonian kulen/kulin sausage, traditional church singing in Baranja, vineyard custom from Požega – Grgurevo and alike also play an important role in the tourist resource base of Eastern Croatia. It is also important to mention the protected cultural goods as a starting point of the development of cultural tourism, in the domain of:

- sacral buildings (The Church of St. Peter and Paul, The Church of the Holy Cross with its monastery, The Church of St. Martin, the Monastery of St. Nicholas, etc.)
- archeological heritage (Archeological zone Ilok, Archeological sites "Marikovo" and "Duge njive", Archeological site of Čemernica, Archeological site of Vučedol, etc.)
- profane architectural heritage (the Castle of Prince Eugene of Savoy, Castle Normann, the old “Ružica” city, etc.), old sacral/religious objects (the organ in the St. Rok church, the inventory of the Church of the Holy Trinity with its monastery, etc.)
- museums, library and archeological matter (the archeological collection of Avar grave findings at the site of the castle Khuen-Belassi in Nuštar, the Vučedol boot, the book holdings of the Franciscan monastery library, etc.) and
- other movable and immovable cultural goods.

## 5. Research methodology

To raise awareness of the importance of cultural tourism as a backbone of the future tourism development of still insufficiently developed tourist areas of Eastern Croatia, we have conducted an empirical research the main purpose of which was to determine the current state of tourism and the cultural resource base, but also the main limiting factors of the development from the aspect of co-creators of the national tourism policy. When processing the collected data, the methods of description, analysis, synthesis, specialization and generalization were used.

In accordance with the defined aim of this paper, we posed some basic research questions:

1. To what extent are the cultural resources represented in the tourist offer and the development of tourism of Eastern Croatia?
2. To what extent are the co-creators of the tourism policy contented with the integration of cultural resources in the tourist offer of Eastern Croatia?
3. Which are the main limiting factors of the inclusion/exclusion of cultural resources in the tourist offer of Eastern Croatia?

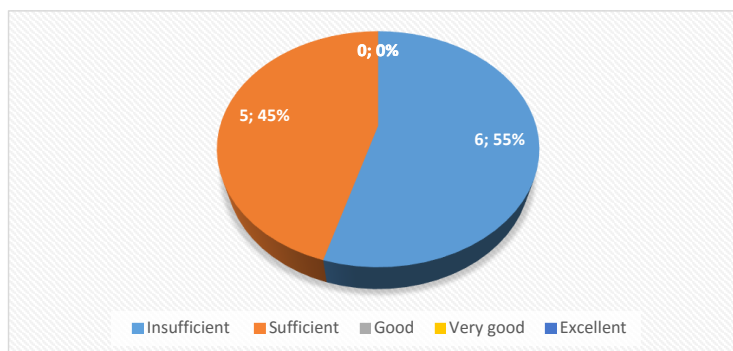
In accordance with the research questions posed, we defined the tasks of the research:

1. To determine the presence of cultural resources in the tourist offer and tourist development of Eastern Croatia from the aspect of co-creators of the national tourism policy
2. To determine the level of contentment with the integration of cultural resources in the tourist offer of Eastern Croatia
3. To determine the main limiting factors of the inclusion/exclusion of cultural resources in the tourist offer of Eastern Croatia

### 5.1. Research results and discussion

According to the research results, it has been determined that the co-creators of the national tourist policy are extremely discontented with the current level of representation of cultural resources, so it is logical to impose the analysis of the level of contentment with the integration of cultural resources in the tourist offer as a next step. As it has been the case with the former interpretation of the collected data, more than a half of respondents, namely 55% of them consider that the level of current integration is low. To be more precise, they evaluate it as insufficient, which can be seen from the *figure 1*. Moreover, it can be concluded that the remaining 45% of the respondents share the same opinion, but they differ in assessing the degree of satisfaction. This group of respondents evaluate the current integration with an equally low grade of sufficient.

**Figure 1** The level of contentment with the integration of cultural resources in the tourist offer of Eastern Croatia



Source: Made by the author according to the research

In the *figure 2*, it can be seen that all respondents consider the lack of cooperation between the stakeholders in tourism at the local, regional and national level as the most limiting factor of the exclusion of cultural resources in the tourist offer of Eastern Croatia, concluding that there is an absence of the strategy of market management and interconnection, which is one of the basic postulates of the successful development of tourism. Elaborating on the previously mentioned facts, they conclude in a very large percentage that there is no tradition of cultural tourism, as a selective form in the world with the prefix of a continuous growth.

**Figure 2** Main limiting factors of the inclusion/exclusion of cultural resources in the tourist offer of Eastern Croatia



Source: made by the author according to the research

Furthermore, the respondents have suggested the insufficient coordination/cooperation among the two key sectors of the development of cultural tourism is one of the most serious problems of the cultural tourism of Eastern Croatia. The main reason for that is seen in the inexistence of the practice of good interconnection and the lack of development policy. As the results in the *figure 2.* show, the problems of implementation of cultural resources in the tourist development have been detected in the domain of formal and informal education, market research and other.

## 6. Conclusion

Contemporary global trends have profoundly influenced the development and the direction, i.e. the orientation of tourist destinations, which seek their "advancing" in the affluence of specific types and forms of tourism in the ever more demanding tourist market based on their comparative advantages and taking into account the criteria of the sustainable development. The greatest potential for the development of cultural tourism in Croatia is seen in a great number of cities with a cultural resource base which possess monuments of high protection and are rich in intangible cultural heritage, which is manifested in different forms of cultural and tourist offer and distinct tourism products. It is therefore necessary to turn the recognized cultural resources, especially the ones that are renowned worldwide and under the protection of UNESCO, into a strong tourism product which will have a great attractive force and thus provide the others, less significant cultural and historical resources with the opportunity of having the function of cultural and tourist utilization. However, in the current market conditions, where everything is directed at maximizing the economic benefits by a ruthless use of public goods and exploitation of the resources, we should strive for a sustainable use of cultural and historical heritage, which includes the protection and use that help to preserve the cultural heritage with an uninterrupted use for economic purposes. As it has been identified in the Croatian Tourism Development Strategy until 2020, the cultural product is a dominant tourist potential upon which we should build the competitiveness of the tourist offer of Croatian tourism. It is therefore recommended for the relevant stakeholders from the area of culture and tourism, regardless of the

level, to act integrated in the implementation of the joint actions/projects in order to achieve a strong cross-sector synergy in the function of a more competitive development of cultural tourism. Consequently, it is necessary, in the shortest possible period, to establish a working group or some other form of formal association of relevant stakeholders in the domain of tourism and culture, as well as a public, private and civil sector, that will think and act with the aim of maximizing the tourist valorization of cultural resources according to their knowledge and ability in the domain of their competence. By establishing such a body, multiple benefits in all areas would be achieved. That would lead to the exchange of knowledges and experiences, as well as to the acquisition of new insights. People interested in participating in cultural tourism traffic would be encouraged, empowered and included and it would lead to the creation and connection of a number of smaller, locally recognized rounded cultural tourism products. The promotion would be strengthened and the continuity of an intense revival of neglected cultural resources and innovation of attractive ones would continue, with a purpose of development, primarily of the cultural tourism of Eastern Croatia, but also the tourism in general. In addition to all facts mentioned above, what is necessary for achieving satisfactory results is an exceptional understanding and support, primarily of the tourism policy, but also of the national politics in general, which can be achieved by joining and leading the body by the highest officials of interested parties.

## REFERENCES

- Blažević, B. (2007): Turizam u gospodarskom sustavu. Opatija: Fakultet za turistički i hotelski menadžment.
- Csapó, J. (2012): The Role and Importance of Cultural Tourism in Modern Tourism Industry, str. 201-232., in Kasimoglu, M., Aydin, H. (eds.) (2012): Strategies for Tourism Industry - Micro and Macro Perspectives. China/Rijeka: InTech.
- Čorak, S., Trezner, Ž. (eds.) (2014): Destinacijske menadžment kompanije DMK. Zagreb: Hrvatska turistička zajednica.
- Demonja, D. (2011): Kulturni turizam: hrvatska iskustva, Antropologija, Vol 11/1 (pp. 181-205).
- Gajski, A., Klarić, V., Laszlo, Ž., Nevidal, R., Pintarić, S. (2011): Muzeji i turizam: djelovanje muzeja kao dionika kulturnog turizma. Zagreb: Muzej suvremene umjetnosti.
- Galiot Kovačić, J. (2008): Kulturni turizam u selima krajnjeg istoka Hrvatske, stanje i perspektive - jedan etnološki pogled, Acta Turistica Nova Vol 2/2 (pp. 249-269).
- Geić, S. (2011): Menadžment selektivnih oblika turizma. Split: Sveučilište u Splitu.
- Gredičak, T. (2008): Kulturna baština u funkciji turizma, Acta Turistica Nova, Vol 2/2 (pp. 205-234).
- Gredičak, T. (2009): Kulturna baština i gospodarski razvitak Republike Hrvatske, Ekonomski pregled, Vol 60/3-4 (pp. 196-218).
- Hennessey, S. M., Yun, D., MacDonald, R. M., MacEachern, M. (2008): Typology of cultural tourists: an island study. Culture and the construction of islandness: the 3rd International Small Island Cultures Conference (pp. 101-111).

- Jadrešić, V. (2001): Turizam u interdisciplinarnoj teoriji i primjeni. Zagreb: Školska knjiga.
- Jadrešić, V. (2010): Janusovo lice turizma: od masovnog do selektivno – održivog turizma. Zagreb: Plejada.
- Jelinčić, D.A. (2009a): Abeceda kulturnog turizma. Zagreb: Meandarmedia.
- Jelinčić, D.A. (2009b): Kulturni turizam: stanje i perspektive razvoja u Republici Hrvatskoj, pp. 335-347., in: Tišma, S., Maleković, S. (eds.) Zaštita okoliša i regionalni razvoj - iskustva i perspektive, Zagreb: Institut za međunarodne odnose.
- Jelinčić, D.A. (2010): Kultura u izlogu. Zagreb: Meandarmedia.
- Jelušić, A. (2009): Ekonomska globalizacija, pp. 6-11., u Blažević, B., Perišić, M. (2009): Turistička regionalizacija u globalnim procesima. Opatija: Fakultet za menadžment u turizmu i ugostiteljstvu.
- Križman Pavlović, D. (2008): Marketing turističke destinacije. Pula: Mikrorad.
- Mckercher, B., du Cros, H. (2002): Cultural tourism: The partnership between tourism and cultural heritage management. Binghamton, NY: The Haworth Hospitality Press.
- Ministarstvo kulture Republike Hrvatske (2011): Strategija zaštite, očuvanja i održivog gospodarskog korištenja kulturne baštine Republike Hrvatske za razdoblje 2011.–2015., Zagreb.
- Ministarstvo turizma Republike Hrvatske (2013): Strategija razvoja turizma Republike Hrvatske do 2020. godine, Zagreb.
- Ministarstvo turizma Republike Hrvatske (2003): Strategija razvoja kulturnog turizma „Od turizma i kulture do kulturnog turizma“, Zagreb: Institut za turizam.
- Nyaupane, G.P., Andereck, K.L (2007): An Expansion of Typology of Cultural Heritage Visitors' in Beating the Odds with Tourism Research. Proceedings of TTRA 38th Annual Conference, Las Vegas, Nevada, USA (Lipanj 17-20), (pp. 213–220)
- Pancić Kombo, T. (2006): Kulturno nasljeđe i turizam. Radovi Zavoda za znanstveni rad - Varaždin, No. 16-17 (pp. 211-226).
- Razović, M. (2009): Obilježja ponude kulturnog turizma dalmatinskih županija, Acta Turistica Nova, Vol.3/1 (pp. 137-162)
- Richards, G. (1996): The Scope and Significance of Cultural Tourism, pp. 21-38., u Richards, G. (ed.) (1996): Cultural Tourism in Europe. Wallingford: CABI.
- Tomljenović, R. (2006): Kulturni turizam, pp. 119-147., u Čorak, S., Mikačić, V. (eds.) (2006): Hrvatski turizam - plavo bijelo zeleno. Zagreb: Institut za turizam.
- Tomljenović, R., Hendija, Z., Razović, M. (2011): Domaća kulturna potražnja: Analiza slučaja Splitsko-dalmatinske županije. Acta turistica, Vol. 23/1 (pp. 27-48)
- Vong, F. (2013): Relationships among perception of heritage management, satisfaction and destination cultural image, Journal of Tourism and Cultural Change, Vol. 11/4 (pp. 287-301).

Vrtiprah, V. (2006): Kulturni resursi kao činitelji ponude u 21. stoljeću, *Ekonomski misao i praksa*, Vol. 15/2 (pp. 279-296).

Vukonić, B. (2008): Povijesni gradovi i njihova turistička razvojna opcija, *Acta Turistica Nova*, Vol 2/1 (pp. 111-122).

Vukonić, B., Čavlek, N. (eds.) (2001): *Rječnik turizma*. Zagreb: Masmedia.

Zhang, Y. (2011): *Cultural Tourism Products: A Case Study in the Xi'an City*. UNLV Theses/Dissertations/Professional Papers/Capstones. Paper 1077.

Ministarstvo turizma, HGK (2015): *National catalogue of rural tourism in Croatia*. Zagreb:



**Financijske  
institucije**

**Financial  
institutions**

**Prof. Anto Bajo, PhD**

Institute of Public Finance Zagreb

bajo@ijf.hr

Faculty of Economics and Business Zagreb

abajo@efzg.hr

**Marko Primorac, PhD**

Faculty of Economics and Business Zagreb

mprimorac@efzg.hr

**Petar Sopek**

psopek@gmail.com

## **NET FISCAL POSITION OF REGIONS IN CROATIA**

### **NETO FISKALNA POZICIJA REGIJA U HRVATSKOJ**

#### **ABSTRACT**

*The main aim of this study was to determine the net fiscal position of regions/counties, i.e. the net fiscal position of all cities and municipalities in the area of each county. The analysis was carried out for the period from 2011 until 2013. The distribution of around HRK 129bn of revenue and expenditure of the general government was conducted according to the established distribution keys and the net fiscal position of counties was determined. The results revealed that out of 21 counties (20 counties and the City of Zagreb), only four recorded a positive net fiscal position. The best average annual net fiscal position has been found in the City of Zagreb, Istarska, Primorsko-goranska and Zagrebačka County. Other counties recorded a negative net fiscal position of which the weakest (negative) was identified in the Vukovarsko-srijemska and Osječko-baranjska.*

**Key words:** *fiscal position, county, region, classification, budget, Croatia*

#### **SAŽETAK**

*Glavni je cilj rada utvrditi neto fiskalni položaj županija/regija, odnosno neto fiskalni položaj svih gradova i općina na prostoru svake županije/regije. Analiza je obavljena za razdoblje od 2011. do 2013. Po utvrđenim ključevima obavljena je raspodjela oko 129 mlrd. kuna prihoda i rashoda proračuna opće države po županijama i izračunate su njihove neto fiskalne pozicije. Rezultati su pokazali da od 21 županije (20 županija i Grad Zagreb), samo četiri bilježe pozitivnu neto fiskalnu poziciju. Najbolju prosječnu godišnju neto fiskalnu poziciju bilježe Grad Zagreb te Istarska, Primorsko-goranska i Zagrebačka županija. Ostale županije bilježe negativne neto fiskalne pozicije od kojih najslabiju (negativnu) imaju Vukovarsko-srijemska i Osječko-baranjska županija.*

**Ključne riječi:** *fiskalni položaj, županija, regija, klasifikacija, proračun, Hrvatska*



## 1. Introduction

The main aim of this study was to determine the spatial dimension of the general government budget, i.e. which counties are net beneficiaries and net contributors to the general government budget (total consolidated budget of the central government, local and regional governments and extra-budgetary users). The distribution of HRK 129bn (around 90%) of the general government budget revenue and expenditure (according to ESA 2010 methodology) by counties was simulated based on specified keys from 2011 to 2013. The research aims to encourage the Government and Parliament to create a general government budget according to geographical location classification.

With the aim to assess economic and fiscal effects key financial flows between counties, central government budget and extra-budgetary funds were specified in details and estimated. In this paper net fiscal position of counties was carried out and comparative analysis was shown. Feasibility of the project was largely dependent on data availability. Certain budgetary items could not be determined by counties and in that case best possible approximations were used, taking into account indicators structure and key determinants of revenue and expenditure.

The distribution of the general government revenue and expenditure by counties creates a good analytical basis for discussions about the regional restructuring or improvement of the existing model of (administrative, territorial and fiscal) decentralization. The research results further justify such an approach.

## 2. General government budget

In addition to the administrative, economic, and functional classifications, other forms of classification may provide complementary information, in particular: Classification by *geographical location* of the administrative unit, taxpayer, or the recipient of government transfers and subsidies.

From 2011 to 2013, total general government revenue stood at about HRK 136.4bn (41.2% of GDP) on average, while expenditure amounted to about HRK 156.9bn (47.4% of GDP). Within the general government budget, the budgets of all local government units amounted to HRK 15.5 billion (only around 10% of the general government budget). Therefore, the research was aimed at the analysis and distribution by counties of HRK 129bn of general government revenue and expenditure.

**Table 1** Total general government revenue and expenditure (ESA 2010 methodology), 2011-13 (in HRK billion and % of GDP)

	billion HRK			% of GDP		
	2011	2012	2013	2011	2012	2013
Revenue	134.9	136.4	138.0	40.6	41.3	41.8
Expenditure	160.4	155.1	155.2	48.2	46.9	47.0

*Note: The data follow the methodology of the European system of national and regional accounts (ESA 2010), in effect as of September 2014. It is particularly important for Croatia in terms of fiscal surveillance under the excessive budget deficit procedure.<sup>1</sup> Source: CBS (2014a).*

<sup>1</sup> Compared to the national methodology (published by the Ministry of Finance), the general government, according to ESA 2010, includes the public companies Croatian Highways and Rijeka-Zagreb Highway, Croatian Radio Television and Croatian Railways Infrastructure, whereas the local government sector additionally includes the revenues and expenditures of particular local budgetary

The analysis included about HRK 129bn (see Table 2), distributed by counties (according to geographical location). These were the revenue and expenditure of local and central government (the government budget and extra-budgetary funds), presented by counties.

**Table 2** Total revenue and expenditure used in the analysis, 2011-13 (in HRK billion and % of total general government revenue and expenditure) according to ESA 2010 methodology

	billion HRK			% of revenue/expenditure		
	2011	2012	2013	2011	2012	2013
Revenue	127.4	130.4	129.4	94.4	95.6	93.8
Expenditure	128.4	126.4	131.2	80.0	81.5	84.6

Source: Authors' calculations.

Taking into account the wider scope of the general government (according to ESA 2010), the analysed revenue covers most of the total revenue (about 94.6% on average). On the expenditure side, the share of coverage is slightly lower (about 82.1% on average) due to the exclusion of certain transactions from the analysed expenditure.

### 3. Methodology for determining the net fiscal position

The net fiscal position of a county implies the difference between the total operating revenues and expenditures (of the general government) realized in the territory of that particular county.<sup>2</sup> Monitoring the net fiscal position by counties is important for the implementation of the regional policy because it reveals the fiscal capacities (the ability to raise revenue) and fiscal needs of local government units in the territory of particular counties.

For the sake of analysis, it was necessary to develop an analytical framework for the distribution of general government revenue and expenditure, or present them according to the geographical location they belong to - the area where the revenue was collected or expenditure spent. The methodological framework followed a seemingly simple logic of determining "keys" for distributing the revenue and expenditure items by counties. Due to their specificities (one-off nature), some items of revenues and receipts as well as expenditures and expenses are excluded from the analysis. The basic methodological concepts are presented below, whereas detailed explanations are available in the Appendix.

Revenue breakdown. The revenue breakdown methodology is based on the economic classification and information on revenue allocation to each level of the general government budget (central government budget, extra-budgetary funds and local government budgets). The analysis encompasses the general government's operating revenue, whereby certain items of revenues and receipts, which could distort the picture because of their unpredictability, one-offness or double counting, are excluded from the analysis.<sup>3</sup> For the revenue breakdown, 27 keys have been applied to 46 revenue items (see

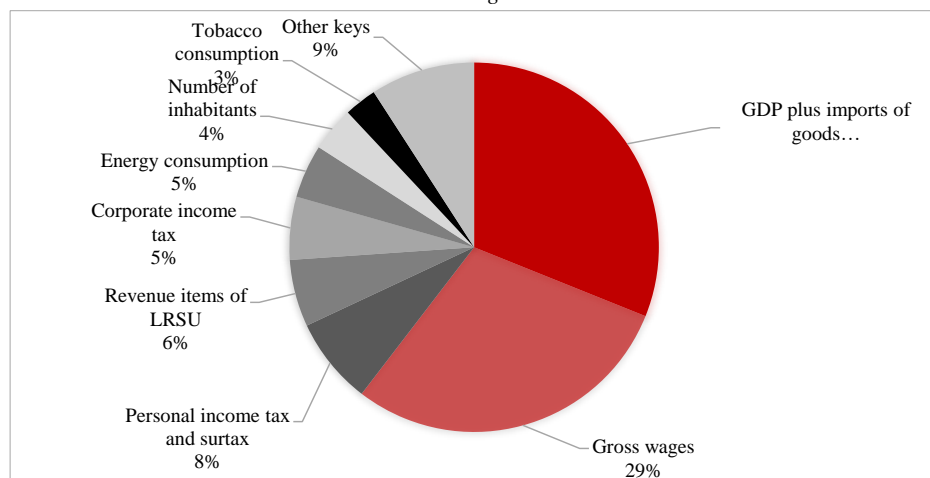
users. Another significant difference between the national and ESA 2010 methodologies exists in the recording of fiscal transactions. According to ESA 2010, fiscal transactions are accounted for on an accrual basis (revenues and expenditures are recorded at the time they occur), whereas under the national methodology they are mainly accounted for on a cash basis (at the time of payment into the budget).

<sup>2</sup> The revenue collected in a county does not only include the revenues recorded in the local and regional government budgets, but also total general government revenues generated in the territory of the county (even those recorded in the central government budget). The same applies to expenditure.

<sup>3</sup> Revenues from the sale of non-financial assets, revenues from entities within the general government budget, as well as receipts from financial assets and borrowing are excluded from the analysis.

Figure 1 and table A.1 in the Appendix). GDP increased by imports of goods accounts for the largest share of revenue (CBS, 2012; 2013; 2014b) and it is used as a key for the distribution of VAT and other taxes on goods and services, jointly accounting for 31% of the observed revenue. The data on gross wages were used for the distribution of social contributions (29% of the observed revenue) by counties (the Ministry of Finance data and CBS, 2013b; 2014c). Smaller shares of revenue were distributed according to the data on personal income tax and surtax (8%) and other categories of local government revenue (6%) downloaded in the aggregated form from the website of the Ministry of Finance (2014).

**Figure 1** The structure of the most important keys for the allocation of revenue, the 2011-13 average



Source: Authors' calculations.

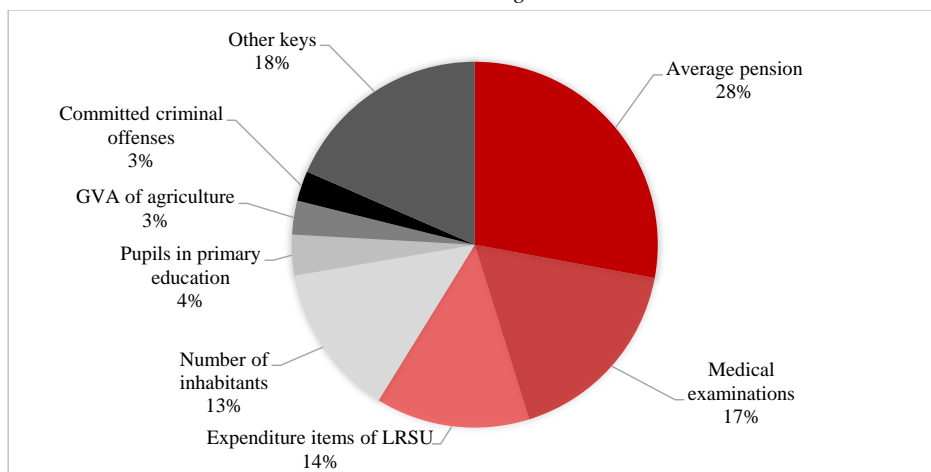
Expenditure breakdown. The general government expenditure is divided by levels of government where it is spent, according to the functional classification. The corresponding organizational units (ministries, offices, services, etc.), the expenditures of which mostly belong to the above mentioned functional classification, were presented within functions.<sup>4</sup>

The distribution of expenditure by counties was carried out in even greater detail - according to these organizational units' programs. In addition to the central government budget, a separate distribution of expenditure was made for the expenditures of local and regional government units and non-budgetary funds. Certain expenditure items (expenditures for the acquisition of non-financial assets, expenditures for entities within the general government budget, expenses for financial assets and borrowing and the expenditures and expenses of public sector entities outside the scope of the general government) were excluded from the analysis. Local government expenditure was analysed by economic classification (for example, compensation of employees, subsidies, aid and so on).

<sup>4</sup> Due to differences in the methodology used for the analysis of the revenue and expenditure sides of the budget, it is not possible to unambiguously identify the net effects by sources or functions - the revenue sources cannot be unambiguously matched with expenditures. For example, pension insurance contributions appear on the revenue side, whereas on the expenditure side, there is total expenditure of the CPII (Croatian Pension Insurance Institute), which includes the payment of pensions, but also employee and material expenses of the Institute.

Due to the exclusion of items associated with transactions in non-financial assets on the revenue and expenditure sides, as well as receipts from and expenses for financing (financial assets and borrowing), the calculated net fiscal position of the Republic of Croatia should not be confused with the official measure of surplus/deficit of the general government budget. Due to a delay in the dissemination of certain official statistical information used in the distribution of expenditure, the latest available data were used for certain years, although they did not necessarily refer to the corresponding year. For expenditure breakdown, 44 different keys were applied to 163 expenditure items (see Figure 2 and table A.2 in the Appendix).

**Figure 2** The structure of the most important keys for the allocation of expenditure, the 2011-13 average



Source: Authors' calculations.

The largest share of expenditure was distributed by counties based on the amount of average pension and the number of pensioners (CPII, 2011; 2012; 2013), which is used as a key for the distribution of the Pension Insurance Institute's expenditure, representing 28% of the observed expenditure. The second most important key refers to the data on the number of examinations performed (in the office and at home) and referrals to specialists (CNIPH, 2012; 2013; 2014) used to distribute 17% of expenditure related to health – the Croatian Institute for Health Insurance, a part of the Ministry of Health and the health protection, preservation and promotion program. The data on certain local government expenditure items, downloaded in the aggregated form from the website of the Ministry of Finance (2014), were used for the distribution of 14% of expenditure. The number of inhabitants was used as a key for the distribution of 13% of total expenditure observed (CBS, 2014d), relating to as many as 72 budgetary users (mainly services of general public interest, such as the Government, Croatian Parliament, State Inspectorate, Ministry of Public Administration, Constitutional Court, etc.).

#### 4. Results – net fiscal positions of counties

The average net fiscal position at the national level was positive and amounted to HRK 383m.<sup>5</sup> However, the analysis conducted by counties reveals some worrying results. Out of 21 counties, only four had positive net fiscal positions in the period from 2011 to 2013.

As expected, the City of Zagreb had the best average annual net fiscal position (HRK 13.7bn)<sup>6</sup>, followed by Istarska (HRK 795m), Primorsko-goranska (HRK 731m) and Zagrebačka (HRK 134m) Counties. Other counties had negative net fiscal positions, especially Vukovarsko-srijemska (HRK 1.69bn) and Osječko-baranjska (HRK 1.67bn) Counties.

**Table 3** Total analysed revenues, expenditures and net fiscal positions of counties, the 2011-13 average (in HRK million)

County code	County	Revenue	Expenditure	Net fiscal position
01	Zagrebačka	8,417	8,283	134
02	Krapinsko-zagorska	2,964	3,709	-746
03	Sisačko-moslavačka	4,047	5,193	-1,146
04	Karlovačka	3,188	3,920	-732
05	Varaždinska	4,277	4,726	-449
06	Koprivničko-križevačka	2,777	3,385	-608
07	Bjelovarsko-bilogorska	2,513	3,469	-956
08	Primorsko-goranska	10,519	9,788	731
09	Ličko-senjska	1,263	1,924	-662
10	Virovitičko-podravaska	1,699	2,452	-752
11	Požeško-slavonska	1,522	2,160	-638
12	Brodsko-posavska	2,969	4,117	-1,148
13	Zadarska	4,397	5,146	-749
14	Osječko-baranjska	7,113	8,787	-1,674
15	Šibensko-kninska	2,686	3,529	-844
16	Vukovarsko-srijemska	3,387	5,076	-1,689
17	Splitsko-dalmatinska	11,647	13,042	-1,396
18	Istarska	7,475	6,680	795
19	Dubrovačko-neretvanska	3,520	3,969	-449
20	Međimurska	2,586	2,886	-300
21	City of Zagreb	40,117	26,456	13,661
	<b>Croatia</b>	<b>129,083</b>	<b>128,700</b>	<b>383</b>

Source: Authors' calculations.

The per capita net fiscal positions of counties in the period from 2011 to 2013 are shown in Table 4.

<sup>5</sup> It should be noted that the calculated net fiscal position of the Republic of Croatia should not be confused with the official measure of the general government surplus/deficit, because this analysis considers only operating revenue and expenditure (excluding transactions in non-financial assets, as well as receipts from and expenses for financing) as explained in the methodology section.

<sup>6</sup> The City of Zagreb is the cultural, scientific, economic, political and administrative centre of the Republic of Croatia; it has the highest level of employment – the share of employed persons in the total population in 2013 was 45%, whereas the average for the Republic of Croatia was 26% (CBS, 2014c; 2014d). It also has the highest average net wage – In 2012, the average net wage in Zagreb amounted to HRK 6,366, whereas the average for the Republic of Croatia was HRK 5,469 (CBS, 2014c). About half of the total profits of entrepreneurs in Croatia are generated by Zagreb-based enterprises (FINA, 2013).

**Table 4** Total analysed revenues, expenditures and net fiscal positions per capita of counties, the 2011-13 average (in HRK million)

County code	County	Revenue	Expenditure	Net fiscal position
01	Zagrebačka	26,450	26,029	421
02	Krapinsko-zagorska	22,492	28,151	-5,659
03	Sisačko-moslavačka	23,892	30,661	-6,768
04	Karlovačka	25,092	30,851	-5,759
05	Varaždinska	24,426	26,990	-2,564
06	Koprivničko-križevačka	24,172	29,464	-5,292
07	Bjelovarsko-bilogorska	21,271	29,361	-8,090
08	Primorsko-goranska	35,616	33,142	2,474
09	Ličko-senjska	25,253	38,489	-13,237
10	Virovitičko-podravska	20,274	29,250	-8,976
11	Požeško-slavonska	19,830	28,144	-8,314
12	Brodsko-posavska	18,902	26,207	-7,305
13	Zadarska	25,725	30,109	-4,384
14	Osječko-baranjska	23,496	29,024	-5,528
15	Šibensko-kninska	24,930	32,760	-7,831
16	Vukovarsko-srijemska	19,082	28,601	-9,519
17	Splitsko-dalmatinska	25,613	28,682	-3,069
18	Istarska	35,965	32,140	3,826
19	Dubrovačko-neretvanska	28,772	32,446	-3,674
20	Medimurska	22,765	25,407	-2,642
21	City of Zagreb	50,589	33,362	17,227
	<b>Croatia</b>	<b>30,245</b>	<b>30,155</b>	<b>90</b>

Source: Authors' calculations.

There are only slight changes in the per capita net fiscal positions of counties. The City of Zagreb still holds the best net fiscal position – the general government revenue per capita generated in the territory of the City of Zagreb exceeds by an average of HRK 17.2 thousand the expenditure. The second best is Istarska County, with an average surplus of HRK 3.8 thousand per capita, followed by Primorsko-goranska County with a surplus of HRK 2.5 thousand per capita. The lowest net fiscal position is recorded in Ličko-senjska County, with a deficit of HRK 13.2 thousand per capita.

There are no significant deviations with respect to annual changes.

From 2011 to 2013, the per capita net fiscal position improved in Šibensko-kninska (by HRK 1,026 per capita) and Splitsko-dalmatinska Counties (by HRK 907 per capita). Despite the positive trends in the three years observed, Šibensko-kninska and Splitsko-dalmatinska Counties maintained negative net fiscal positions in 2013. Positive trends were also recorded in Zadarska (HRK 243), Istarska (HRK 237), Varaždinska (HRK 227), Virovitičko-podravska (HRK 99), Osječko-baranjska (HRK 85) and Brodsko-posavska Counties (HRK 76). Among these counties, only Istarska County recorded a positive net fiscal position in the three years observed, with a positive trend in 2013 compared to 2011.

**Table 5** Per capita net fiscal positions of counties, 2011-13 (in HRK)

County code	County	2011	2012	2013	Change 2013/2011
01	Zagrebačka	180	1,041	43	-137
02	Krapinsko-zagorska	-5,922	-4,601	-6,459	-537
03	Sisačko-moslavačka	-6,794	-6,011	-7,510	-717
04	Karlovačka	-5,876	-4,953	-6,453	-577
05	Varaždinska	-3,023	-1,872	-2,797	227
06	Koprivničko-križevačka	-5,542	-4,406	-5,930	-388
07	Bjelovarsko-bilogorska	-8,411	-6,755	-9,109	-698
08	Primorsko-goranska	1,856	3,835	1,731	-125
09	Ličko-senjska	-11,975	-12,500	-15,277	-3,302
10	Virovitičko-podravska	-9,339	-8,349	-9,240	99
11	Požeško-slavonska	-8,480	-7,263	-9,206	-726
12	Brodsko-posavska	-7,681	-6,627	-7,605	76
13	Zadarska	-4,752	-3,893	-4,509	243
14	Osječko-baranjska	-6,032	-4,606	-5,947	85
15	Šibensko-kninska	-8,672	-7,161	-7,646	1,026
16	Vukovarsko-srijemska	-9,492	-8,375	-10,700	-1,208
17	Splitsko-dalmatinska	-3,683	-2,749	-2,776	907
18	Istarska	3,211	4,819	3,447	237
19	Dubrovačko-neretvanska	-3,882	-2,264	-4,876	-994
20	Međimurska	-3,021	-1,831	-3,073	-52
21	City of Zagreb	17,258	18,143	16,282	-977
	<b>Croatia</b>	<b>-239</b>	<b>936</b>	<b>-428</b>	<b>-189</b>

Source: Authors' calculations.

In contrast, Ličko-senjska County recorded the lowest net fiscal position, with a further downward trend throughout the observed period. Thus, in 2013 alone the per capita net fiscal position of Ličko-senjska County was in the red by over HRK 15 thousand (down HRK 3,302 from 2011). The City of Zagreb also recorded a negative trend in the observed period, with its per capita net fiscal position in 2013 deteriorating by HRK 977 from 2011.

## 5. Conclusion

The budget of the Republic of Croatia is not presented according to the location classification, which prevents the monitoring of the fiscal position by regional (county) dimension. This further prevents the analysis of government policies and reforms and assessment of their impact on the regional development and fiscal position of certain regions.

The Institute of Public Finance has developed a methodology for the location classification of revenue and expenditure according to selected keys. Based on this methodology, it is possible to determine the net fiscal position of each county (revenue collected and expenditure spent in the territories of individual counties) and provide a framework for the evaluation of government policies and reforms aimed at regional development, but also to evaluate their impact on revenue and expenditure.

The analysis results indicate that there are certain inefficiencies in the existing regional organization. Only four out of 21 counties are net contributors, while the other 17 counties

are net beneficiaries from the general government budget. Such a regional organization model (where a vast majority of counties spend more than they collect in revenues) is clearly not sustainable in the long run.

The proposed methodology opens a new perspective for fiscal policy monitoring in the Republic of Croatia, at both local and regional levels. This is a useful tool for the state to review regional policies and better monitor the effectiveness of fiscal policy instruments on the revenue and expenditure sides in the counties.

For local and regional governments with weaker net fiscal positions (as well as for leaders who run them), the analysis results can be a motivation to improve their fiscal positions. For best performing counties, they are a confirmation of success that can help them in lobbying for more funds from the general government budget, or a powerful argument for further decentralization.

This research aims to encourage expert debate on possible and necessary options for regional reorganization of the Republic of Croatia, based on indicators rather than subjective or general impressions.

Without appropriate regional policy and measurable data it is impossible to adequately manage complex decentralized structure which may potentially lead to negative consequences for the fiscal sustainability of Croatia in the long run. Therefore, it is highly recommended to continue conducting this analysis on an annual basis with mutual cooperation of the Institute of Public Finance, public institutions that have capacities for collection of detailed data and creation of adequate data infrastructure on the national and regional level (such as Ministry of Finance, Croatian Bureau of Statistics) and representatives of local and regional governments who have necessary knowledge and experience in recognizing local needs and constraints.

During the preparation of this paper, the authors have faced numerous obstacles due to non-existence of publicly available data needed to conduct the analysis, insufficient level of data transparency, significant delays in data publishing compared to period of reference and so on. For all further analyses and enhancements of the existing ones, it is necessary to work on the completeness, availability and simplicity of data collection at the level of all competent institutions in Croatia. Hence it is recommended to further invest knowledge, effort and financial funds in the improvement of publicly available data infrastructure. Only quality and comprehensive data can be satisfactory tool to conduct quality research based on which certain political decisions could and should be made, in this way favouring further development of fiscal, economic and the overall social situation in Croatia.

It is necessary to systematically list all the institutions and users of public sector for clear and complete determination of public sector scope, as well as monitoring and reporting on all transactions within it. Namely, in order to get full picture on the fiscal position of each and every county the analysis should also include other public sector entities such as utility companies, local road authorities etc. which are partially or fully owned by the city, municipality or county. The problem of consolidation of these entities arises from non-existence of publicly available registry, business indicators and statistics of all such companies based on which real scope of public sector could be determined.



## REFERENCES

- CBS, 2012. Statistical Yearbook of the Republic of Croatia 2012. Zagreb: Croatian Bureau of Statistics.
- CBS, 2013a. Statistical Yearbook of the Republic of Croatia 2013. Zagreb: Croatian Bureau of Statistics.
- CBS, 2013b. Persons in paid employment, by activities and counties, situation as at March 31, 2012. First Release, No. 9.2.4. Zagreb: Croatian Bureau of Statistics.
- CBS, 2014a. Excessive deficit procedure report, Republic of Croatia, April 2014. First Release, No. 12.1.3/1. Zagreb: Croatian Bureau of Statistics.
- CBS, 2014b. Gross domestic product for Republic of Croatia, NUTS 2 level and counties, 2011. First Release, No. 12.1.2. Zagreb: Croatian Bureau of Statistics.
- CBS, 2014c. Persons in paid employment, by activities and counties, situation as at March 31, 2013. First Release, No. 9.2.4. Zagreb: Croatian Bureau of Statistics.
- CBS, 2014d. Population estimate of Republic of Croatia, 2013. First Release, No. 7.1.4. Zagreb: Croatian Bureau of Statistics.
- FINA, 2013. Osnovni financijski rezultati poduzetnika po županijama za 2012. godinu. Registry of annual financial statements. Zagreb: Financial Agency.
- CNIPH, 2012. Croatian Health Service Yearbook 2011. Zagreb: Croatian National Institute of Public Health.
- CNIPH, 2013. Croatian Health Service Yearbook 2012. Zagreb: Croatian National Institute of Public Health.
- CNIPH, 2014. Croatian Health Service Yearbook 2013. Zagreb: Croatian National Institute of Public Health.
- CPII, 2011. Statistical Information of the Croatian Pension Insurance Institute. Zagreb: Croatian Pension Insurance Institute.
- CPII, 2012. Statistical Information of the Croatian Pension Insurance Institute. Zagreb: Croatian Pension Insurance Institute.
- CPII, 2013. Statistical Information of the Croatian Pension Insurance Institute. Zagreb: Croatian Pension Insurance Institute.
- Ministry of Finance, 2014. Local government budget – Archive. Zagreb: Ministry of Finance.

## Appendix

**Table A.1** *The most important keys for the allocation of revenue, the 2011-13 average*

Key indicators	Type of revenue	The share of total revenue (%)	Method of Calculation
Aggregate data about income, income tax and surtax per counties-Ministry of Finance (MoF)	Income tax and Surtax	7.6	The proportion of aggregate amount of income tax and surtax per counties (source: MoF data)
Aggregate data about corporate income tax per district- Ministry of Finance	Contribution	29.3	Proportion of aggregate amount of gross salaries per counties ( source: MoF data)
Revenues of local and regional government	Corporate income tax	5.5	Proportion of aggregate amount of corporate income tax per counties- (source: MoF data)
	Real estate transfer tax	0.8	Item 6134 (periodic property tax) multiplied by 100/60 (60% of real estate transfer tax is income of local/regional units, and the rest of the state budget.
	Property tax	0.1	Item 613 (property tax) reduced for item 6134. (periodic property tax)
	The Consumption tax	0.1	Item (6142) (transfer tax)
	Other revenues	4.8	Proportional distribution per counties
Number of registered cars	Transfer tax	0.1	Proportional distribution per counties-most part refers to item 6142 (Special tax on the sale of used passenger car, passenger motor vehicles, vessels and aircrafts)
	Special taxes on motor vehicles	0.5	Proportional distribution per counties
GDP increased by import of goods	Value added tax (VAT)	30.6	Proportions of GDP increased by import of goods per counties
	Other taxes on goods and services	0.5	Proportion of GDP increased by import of goods per counties that are applied to items 6146 (the other taxes on goods and services), 6162 (other tax revenues paid by individuals), 6614 (sales revenue of goods and products) and 6615 (Sales revenue of services) from the state budget.
Energy consumption	Excise duties on energy	4.7	Regression analysis to estimate energy consumption by those counties in which the Program of energy efficiency in final consumption do not have information or do not have Program. After that, proportional distribution per counties
Consumption of alcohol	Excise duties on alcohol	0.1	Calculation of alcohol consumption per counties from Households Budget Survey (HBS), with adjustment for tourists spending, and than proportional distribution per counties
Beer consumption	Excise duties on beer	0.5	Calculation of beer consumption per counties from Households Budget Survey (HBS), with adjustment for tourists spending, and than proportional distribution per counties
Population adjusted for the number of tourists	The special tax on non-alcoholic beverages	0.1	Proportional distribution per counties
Tobacco consumption	Excise duties on tobacco	2.8	Calculation of tobacco consumption per counties from Households Budget Survey (HBS), with adjustment for tourists spending, and than proportional distribution per counties
Consumption of coffee	The special tax on coffee	0.1	Calculation of coffee consumption per counties from Households Budget Survey (HBS), with adjustment for tourists spending, and than proportional distribution per counties
GDP	Excise duties on luxury goods	0.0	Proportional distribution per counties
Import of goods	Taxes on International trade and transactions	1.2	Proportional distribution per counties

Local taxes on winnings from games of chance from local/counties budget	State taxes on winnings from games of chance	0.6	Proportional distribution of items 6147 (taxes on winnings from games of chance and other taxes on winning from games on chances), 6148 (fee for organising games of chance) from local budget per counties, that are applied on items 6147 and 6148 of state budget.
The combination of the number of insured persons who have used the health care - number of medical examination and referrals to specialists	Revenues under special regulations- health	1.2	Number of insured persons who have used the health care of the county which is applied to the item 65265 (revenues from supplementary health insurance ) of the state budget and the sum of examinations and referrals to specialists by county applicable to the item 65264 ( income from participating in coverage rates of health services - participation ) state budget
The combination of import and export of goods , the number of offenses in traffic and population	Penalties and administrative measures	0.4	Proportionally per counties
Grants from budget state and local/regional budgets	Grants	2.3	Proportionally per counties
Population	Other revenues of state budget	3.9	Proportionally per counties
Length of national roads	Revenues of Hrvatske ceste	0.0	Proportionally per counties
Local and counties revenues from local rates and fees	Revenues of Hrvatske vode	1.2	The share of income of local rates or fees by counties
The combination of the number of registered cars and current expenditures for environmental protection (waste management)	Revenues of Environmental Protection and Energy Efficiency Fund (EPEEF)	0.8	The weighted average of number of registered cars per counties (with a share of 70%) and current expenditures for environmental protection in the area of waste management.
	<b>TOTAL</b>	<b>100</b>	

**Table A.2** *The most important keys for the allocation of expenditure, the 2011-13 average*

Key indicator	Expenditure	Functional Classification	The share of total expenditure(%)	Method of Calculation
Average pension	Croatian Pension Insurance Institute	Economy, entrepreneurship, labour And Retirement System	27.91	Proportional distribution which is depending on average pension.
	Central Registry of Affiliates			
Number of medical examinations	Croatian Health Insurance Fund	Health and social care	17.28	Proportional distribution depending on medical examinations (ambulance/house) and referrals to specialists
	Investments in health infrastructure Ministry of Health			
Expenditures of local and regional units	Protecting, preserving and improving health			
	Expenditures of local and regional units			
	Agency for accident investigation in the air, maritime and rail transport	Other economic affairs	13.62	Expenditure taken from local budget
	Agency for Public-Private Partnership	Economy		Proportional distribution depending on population
	Education and Teacher Training Agency	Education, sports and culture		
	Agency for Pressure equipment	Economy, entrepreneurship, labour And Retirement System		
	Croatian Agency for Vocational Education and Training	Education, sports and culture		
	Croatian Personal Dana Protection Agency	Defence, public order, security and administration of justice		
	Croatian Competition Agency	Other economic affairs		
	State Commission for Supervisor of Public Procurement Procedure	General public services		
	National Protection and Rescue Directorate	Defence, public order, security and administration of justice		
	Meteorological and Hydrological Service	Defence, public order, security and administration of justice	13.49	
	State Inspector's Office	Defence, public order, security and administration of justice		
	State Office for Croats Abroad	General public services		
	State Office for Reconstruction and Housing Care	Health and social care		
	State Audit Office	General public services		
Central Procurement Office	Other economic business			
State Administrative Office for State Property Management	Other economic business			
State Intellectual Property Office	Education, sports and culture			
State Office for Metrology	Education, sports and culture			
The state office for Radiological and Nuclear Safety	Defence, public order, security and administration of justice			

Croatian Bureau of Statistics	General public services				
Croatian Academy of Sciences and Arts	Education, sports and culture				
Croatian Accreditation Agency	Economy, entrepreneurship, labour And Retirement System				
Croatian Information Documentation Referral Agency	General public services	13.49			
Croatian fire fighting association	Defence, public order, security and administration of justice				
Hydrographical Institute of the Republic of Croatia	Other economic affairs	13.49			
Croatian Metrology Institute	Education, sports and culture				
Croatian Parliament	General public services				
Croatian Standards Institute	Economy, entrepreneurship, labour And Retirement System				
Public Institution Croatian Olympic Centre	Education, sports and culture				
The Miroslav Krleža Institute of Lexicography	Education, sports and culture				
Intergenerational solidarity	Health and social care				
International cooperation and EU affairs	Health and social care				
Ministry of Finance	General public services				
Ministry of the Economy, Labour and Entrepreneurship	Economy, entrepreneurship, labour And Retirement System				
Ministry of construction and physical planning	Environment, Physical Planning and Construction				
Ministry of Culture	Education, sports and culture				
Ministry of Defence of the Republic of Croatia	Defence, public order, security and administration of justice				
Ministry of Justice	Defence, public order, security and administration of justice				
Ministry of Labour and Pension System	Economy, entrepreneurship, labour And Retirement System				
Ministry of Public Administration	General public services				
Ministry of Foreign and European Affairs	General public services				
National and University Library	Education, sports and culture				
National centre for Foreign evaluation of education	Education, sports and culture				
Heritage protection and recovery of objects	Education, sports and culture				
Operational Technical Centre for Telecommunications Surveillance	Other economic affairs				
The Business Innovation Agency of Croatia	Education, sports and culture				
Encouraging the development of wood processing	Economy, entrepreneurship, labour And Retirement System				
Cross-border and transactional cooperation	Economy, entrepreneurship, labour And Retirement System				
Access and structural funds	Health and social care				
					Proportional distribution depending on population

	Implementation of family and population policy	Health and social care		
	Expenditures of Hrvatske Vode	Economy, entrepreneurship, labour And Retirement System		
	Commodity Reserves Board	Education, sports and culture		
	The development of the educational system	Other economic affairs		
	Development of markets of the postal services and electronic communication	Defence, public order, security and administration of justice		
	The security and Intelligence Agency	Health and social care		
	Sanitary inspection	Other economic affairs		
	Central State Administrative Office for State Property Management	General public services		
	Central State Office for e-Croatia	General public services		
	Central Office for Development Strategy and Coordination of EU Funds	Health and social care		
	Improving the protection of victims of family violence	Defence, public order, security and administration of justice		
	Border Management	Other economic affairs		
	Management in the field of transport policy	Health and social care		
	The Management system of health and social care	General public services		
	Office of the President of the Republic of Croatia	General public services		
	Office of the President of the Republic of Croatia upon completion of duty	Defence, public order, security and administration of justice		
	Ombudsman/ woman of the Republic of Croatia	Defence, public order, security and administration of justice		
	The office of the National Security Council	Defence, public order, security and administration of justice		
	Constitutional Court of the Republic of Croatia	Defence, public order, security and administration of justice		
	Croatian Government	Health and social care		
	Health protection and safety of workers	Defence, public order, security and administration of justice		
	Information Systems Security Bureau	Health and social care		
	Disposal of displaced persons, returnees and refugees.	Education, sports and culture	3.59	Proportional distribution depending on the number of pupils in primary education
Number of pupils in primary education	Primary education	Other economic affairs	2.99	Proportional distribution of the counties according to the gross value added of agriculture
Gross value added of agriculture	Ministry of agriculture	Defence, public order, security and administration of justice	2.66	50% proportional distribution depending on the number of offenses and 50% depending on the number of police stations by counties
Number of offenses and police stations	Public order, security and administrative affairs	Health and social care	2.45	Proportional distribution depending on the
Number of social	Improving the quality and availability of social welfare			

supplementary benefits	Budget users in social welfare			number of social supplementary benefits
	Caring for socially vulnerable groups. Social grant and fees. Agency for mobility and EU programmes Agency for science and higher education Croatian Academic and research network University computing centre Universities and polytechnics Higher education			
Number of students	Secondary education	Education, sports and culture	2.31	Proportional distribution depending on the number of students in higher education
Number of pupils in secondary education	Croatian employment service	Education, sports and culture	1.89	Proportional distribution depending on number of pupils in secondary education
Number of unemployed	Development and safety of road traffic and infrastructure Environmental protection in transport The Agency for Market Regulation of Railway Services Croatian Railway Safety agency The development of the railway safety, infrastructure and cable cars.	Economy, entrepreneurship, labour And Retirement System Other economic affairs	1.59	Proportional distribution depending on the number of unemployed due to bankruptcy of the employer
Length of road	Children's Allowances	Other economic affairs	1.29	Proportional distribution depending on the length of road
Number of passengers and loading docks	Expenditures of Hrvatske Ceste	Other economic affairs	1.25	50% proportional distribution depending on the number of passengers and 50% of the proportional distribution depending on the amount of loaded and unloaded goods
Number of people under the age of 19	Improvement of foster care for children and young people in the Republic of Croatia Family Centres Violence Prevention against and among children and youth Social empowerment of families, young people and children. 0	Health and social care	0.88	Proportional distribution depending on the number of people under the age of 19
Length of national roads	Ministry of War Veterans	Health and social care	0.85	Proportional distribution depending on the length of national roads
Number of children and number of young people.	Marking the casualties during the war Caring for Croatian Homeland War Veterans Detained and disappeared Public institutes in Croatia Investment in scientific research activity Expenditures of The Environmental Protection and Energy Efficiency	Health and social care	0.79	50% proportional distribution depending on the number of children and 50% of the proportional distribution depending on the number of young people
Number of veterans' pensions		Education, sports and culture	0.77	Proportional distribution depending on the number of veterans' pensions
Number of masters and PhD.		Education, sports and culture	0.63	Proportional distribution depending on the number of masters and PhD.
Investments in			0.63	Proportional distribution depending on the

environmental protection, municipal waste and energy consumption	Fund	expenditure for environmental protection, municipal waste and energy consumption. The share of each component in the final key is determined by the actual consumption of The Environmental Protection and Energy Efficiency Fund in this area		
Number of live births	Additional maternity level and equipment for new-born child	Health and social care	0.62	Proportional distribution depending on the number of live births
Transport of passengers and goods at ports	Agency for coastal line traffic	Other economic affairs	0.52	50% proportional distribution depending on the number of passengers and 50% of the proportional distribution in relation to the total turnover of goods
	Development and safety of maritime transport and port infrastructure			
GDP	Safety of maritime traffic	Economy, entrepreneurship, labour And Retirement System	0.47	Proportional distribution as a function of GDP
	Ministry of Economy			
Inversely proportional GDP	Agency for the Regional Development of the Republic of Croatia	Economy, entrepreneurship, labour And Retirement System	0.27	Distribution inversely proportional to GDP
	Ministry of Regional Developments and EU funds	Economy, entrepreneurship, labour And Retirement System		
	Promoting regional infrastructure and economy	General public services		
	The development of assisted areas	Economy, entrepreneurship, labour And Retirement System		
Mine suspected areas	Croatian mine action centre	Defence, public order, security and administration of justice	0.19	Proportional distribution as a function of the surface mine suspected areas
Number of night's accommodations per countries	Ministry of Tourism	Other economic affairs	0.15	Proportional distribution depending on the number of night's accommodations
Surface	State Geodetic Directorate	Environment, Physical Planning and Construction	0.15	Proportional distribution depending on the surface
Number of active companies	Croatian Agency for SME's	Economy, entrepreneurship, labour And Retirement System	0.13	Proportional distribution depending on the number of active companies
	Ministry of entrepreneurship and Crafts			
Number of passengers at airports	Aircraft Accident and Incident Investigation Agency	Other economic affairs	0.12	Proportional distribution depending on the number of passengers at airports
Number of sports associations	Development and safety for air transport and infrastructure	Other economic affairs	0.11	Proportional distribution depending on the number of sports associations
	The development of sport	Education, sports and culture		
Number of persons with disabilities	Fund for Professional rehabilitation and Employment of People with Disabilities	Economy, entrepreneurship, labour And Retirement System	0.08	Proportional distribution depending on the number of persons with disabilities
	Disability ombudsman's office	Defence, public order, security and administration of justice		
Current expenditure for environmental protection	Social empowerment of persons with disabilities	Health and social care	0.07	Proportional distribution depending on the current expenditure for environmental
	Croatian environmental agency	Environment, Physical Planning and Construction		
	The management and protection of forest resources, hunting grounds			



	and venison				protection
	The development and managing of water supply system				
	Development of the public drainage, water protection and sea.				
	The Irrigation System and protection from flooding				
	Environment protection				
Number of unemployed due to bankruptcy of the employer	Agency for Insurance of Worker's Claims in case of Employer's Bankruptcy	Economy, entrepreneurship, labour And Retirement System	0.06		Proportional distribution depending on the number of unemployed due to bankruptcy of the employer
Number of approved building permits	Agency for Transactions and Mediation in Immovable Properties Promotion of housing construction	Environment, Physical Planning and Construction	0.04		Proportional distribution depending on the number of approved building permits
Current expenditures for environmental costs reduced by costs of environmental management and expenditure of protection of biodiversity and landscape	The development and management of Physical Planning Regulation and supervision in construction				
Transport in inland waters	Environment protection	Environment, Physical Planning and Construction	0.04		Proportional distribution depending on the environmental costs reduced by costs of environmental management and expenditure of protection of biodiversity and landscape
Current expenditure for the protection of biodiversity and landscape	Agency for Inland Waterways Development and security of inland navigation, port infrastructure and inland waterways	Other economic affairs Other economic affairs	0.04		Proportional distribution depending on the amount of loading and unloading cargo in inland waters
Information literacy	National Parks and Parks of Nature Environment protection Information society	Environment, Physical Planning and Construction	0.03		Proportional distribution as a function of current expenditure for the protection of biodiversity and landscape
	Technological development	Education, sports and culture	0.03		25% proportional distribution in relation to the knowledge of word processing, 25% of the proportional distribution in relation to the knowledge of spread sheet calculations, 25% of the proportional distribution depending on the use of electronic mail, 25% of the proportional distribution depending on the use of the Internet
The population of the coastal areas	Improving the living conditions of the population in coastal area Encourage economic activities on the islands and along the coast Promoting communal and social infrastructure on the islands and along the coast	Other economic affairs	0.02		Proportional distribution depending on the population of the counties that are located on the coast
Number of young people	Youth policy Implementation of the Community Programme_ Youth people at work	Health and social care	0.01		Proportional distribution depending on the number of people aged 15-26 years
Number of children	The Affirmation of the rights and protection of children	Health and social care	0.01		Proportional distribution depending on the

	Support for programs targeting children and young people			number of children under 14 years
	Foundation "Croatia for Children"			
Number of persons under 18 years	The Ombudsman for Children	Defence, public order, security and administration of justice	0.00	Proportional distribution depending on the number of persons under 18 years
Import / export	The State office for Trade Policy	Other economic affairs	0.00	Proportional distribution as a function of total imports / exports
Waste produced	Waste management	Environment, Physical Planning and Construction	0.00	Proportional distribution as a function of waste produced
Number of women	The ombudsman/Woman for gender equality	Defence, public order, security and administration of justice	0.00	Proportional distribution depending on the number of women in counties
Number of believers in counties	Commission for Relations with Religious Communities	Education, sports and culture	0.00	Proportional distribution depending on the number of believers in counties
	<b>TOTAL</b>		<b>100</b>	

**Bedeković Mladena, univ.spec.Ec.**

Ph.D. candidate, Postgraduate Doctoral Studies

Faculty of Economics in Osijek

Phone: +385 33 492 269

E-mail: mladena.bedekovic@vsmti.hr

**Dominik Suk, bacc.oec, student**

College for Management in Tourism and Informatics in Virovitica

Matije Gupca 78, 33000 Virovitica

Phone: +385 33 492 269

E-mail: dominik.suk@gmail.com

**Kadlec Željka, univ.spec.Ec.**

Ph.D. candidate, Postgraduate Doctoral Studies

Faculty of Economics in Osijek

Phone: +385 33 492 269

E-mail: zeljka.tai@gmail.com

**ACCEPTANCE BITCOIN AS DIGITAL CURRENCY IN CROATIA**

**PRIHVAĆENOST BITCOINA KAO DIGITALNE VALUTE U  
REPUBLICI HRVATSKOJ**

***ABSTRACT***

*Money that has so far passed a large number of evolutionary processes of goods, metal, paper up to the information in the computer memory, the value especially given the trust of its users. Modern life as we know it would be unthinkable without cash and electronic money. Under the influence of globalization and the development of Internet trading technology gets more and more importance, a phenomenon cryptocurrencies like Bitcoin lead to revolutionary changes in the financial world, presenting a sort of challenge to banks and all other interested parties. Searching for alternatives in light of the financial business becomes commonplace, a Bitcoin as a platform represents a good basis for the development and construction of new innovation where each user contributes to the creation of its value through a decentralized system of global networks. Its worth is determined by supply and demand in the market and the willingness of others to accept it as legal tender. Bitcoin technology includes features based on protocols, encryption and digital signature, which requires a certain level of IT knowledge and equipment to use. Despite the kind of risks in doing business with Bitcoin, Bitcoin every day becomes stronger, more robust and globally is gaining more supporters. Due to the increasing popularity of virtual currency aim of the paper is to investigate and analyze the Bitcoin system, based on primary research through a questionnaire to determine what kind of information to patients about Bitcoin, options trading and mining it and how Bitcoin trading at all represented in the Republic of Croatia. Given the speed of developments in technology, it is very likely that the market will play money in the future and continue to grow, and advocates of the concept of Bitcoin will face the potential ups and downs of this for now still unpredictable option to transfer money.*

**Keywords:** *cryptocurrencies, Bitcoin, Internet trading, digital currency, globalization*

## **SAŽETAK**

*Novcu koji je do sada prošao veliki broj evolucijskih procesa od robe, metala, papira pa sve do informacija u računalnim memorijama, vrijednost prije svega daje povjerenje njegovih korisnika. Moderan život kakvog danas poznajemo bio bi nezamisliv bez gotovinskog i elektroničkog novca. Pod utjecajem globalizacije i razvoja tehnologija Internet trgovanje dobiva sve više na značenju, a pojava kriptovaluta poput Bitcoina dovodi do revolucionarnih promjena u financijskom svijetu predstavljajući svojevrsni izazov bankama i svim ostalim zainteresiranim stranama. Traženje alternativnih rješenja u svijetlu financijskog poslovanja postaje svakodnevnica, a Bitcoin kao platforma predstavlja dobru podlogu za razvoj i izgradnju novih inovacija gdje svaki korisnik doprinosi stvaranju njegove vrijednosti kroz decentralizirani sustav globalne mreže. Vrijednost mu određuju ponuda i potražnja na tržištu odnosno spremnost drugih da ga prihvate kao sredstvo plaćanja. Bitcoin tehnologija uključuje značajke bazirane na protokolima, enkripciji te digitalnom potpisu što zahtijeva određenu razinu informatičkog znanja i opreme za korištenje. Unatoč svojevrsnim rizicima u poslovanju s Bitcoinima, svakim danom Bitcoin postaje sve snažniji, robusniji te globalno dobiva sve više pobornika. Zbog sve veće popularnosti ove virtualne valute cilj rada je istražiti i analizirati Bitcoin sustav, a na temelju primarnog istraživanja putem anketnog upitnika utvrditi kakva je informiranost ispitanika o Bitcoinu, mogućnostima trgovanja i rudarenjanjima kao i koliko je trgovanje Bitcoinima uopće zastupljeno u Republici Hrvatskoj. S obzirom na brzinu razvoja tehnologije, velika je vjerojatnost da će tržište virtualnog novca u budućnosti i dalje rasti, a zagovornici Bitcoin koncepta suočiti će se s potencijalnim usponima i padovima ove za sada još uvijek nepredvidljive opcije transfera novca.*

**Ključne riječi:** *kriptovalute, Bitcoin, Internet trgovanje, digitalna valuta, globalizacija*

### **1. Introduction**

Human civilization triggered by the economic crisis began looking for alternatives with respect to the classic system of paper and electronic money managed by an incredibly small number of people in the world, such as banks, large corporations and the stock market speculators aiming at obtaining personal benefits. Add to that a system of neoliberal corporate capitalism, competitive spirit and we have all the preconditions for the emergence of currency that will not be controllable by policy, banks, speculators and brokers (Sečen, 2013). The impact of globalization and the development of technology made it possible for Internet trading with all its advantages and disadvantages to become increasingly important and increasingly necessary sponau to businessess, a phenomenon of crypto currencies like Bitcoin have led to revolutionary changes in the financial business. The aim of this work is to explore and analyze the Bitcoin system and identify trading and mining bitcoin opportunities, as well as to explore the awareness of the respondents about Bitcoin and its presence in the Republic of Croatia.

### **2.Bitcoin- chief representative of crypto currency**

Crypto currencies represent digital medium of exchange that meets the criteria of safety, reliability and speed in the collection and processing of resources, and their main characteristic is the lack of relevant institution controlling them (Buterin et al., 2015). For the creation and recording of transactions of crypto currency are used cryptographic mechanisms

of public and private keys that allow different parties which do not trust each other but believe the entire system. The transaction platform enables conducting and recording cash transactions of crypto currency among individual users since the crypto currencies are exchanged directly between two users or entities of peer-to-peer network<sup>1</sup>(P2P). In this case, the transaction does not have to travel through a central server, which is controlled by banks, credit card companies or other financial institutions. However, in such a network, there are different servers, which are located on the road between the user and the dealer, but is essentially a transaction between two users. Transactions in the network take place pseudonymous, without disclosing the true identity of the user. To carry out transactions it is necessary to generate the address related to cryptographic currency with the corresponding pair of public and private key. For safety reasons, for each transaction a new address is usually used. It should be noted that the transaction is not completely anonymous, since at every moment, every transaction can be linked to the appropriate address (Drabik, 2014). The main representative of crypto currency, and is also the subject of much debate in recent years is certainly the Bitcoin(BTC or XBT).It is a digital currency that does not exist in its physical form, and its value depends on supply and demand or the readiness of others to accept it as means of payment.

When we say that Bitcoin is a decentralized currency that means there is no central organization such as a bank or a state that controls the entire system. Bitcoin system is essentially a computer program that controls itself using complex algorithmic mechanisms(Franco, 2015).Bitcoin can be accessed by purchasing or substituting for any of the accepted currency in Bitcoin exchange, by purchasing on Bitcoin slot machines, online purchase or purchase for cash via the web service through the bitcoin exchange.

## 2.1. Working principle of Bitcoin system

Bitcoin system consists of several elements that must adhere to certain rules or protocols, to make the whole system functioning successfully. In addition to the user, most important elements of the system are wallet, transaction, specialized exchange offices, applications for mining and chain blocks.

Most important functions of wallets are storing the user's private key, creation of transactions which are sent to the network and collection of incoming and outgoing transactions so the user can know how much funds are available. Since the user can possess multiple addresses, most software provides the ability to manage multiple addresses, aggregating assets between them(Franco, 2015).It is obvious that Bitcoin wallet is the most important element for each user since it is used for paying and obtaining money. Lately, there are specialized companies that offer data recovery services through analysis of computer memory in the event that the Bitcoin wallet is lost (Kučan, 2014). According to the official website<sup>2</sup>Bitcoin backed by the Bitcoin Foundation, there are 4 types of Bitcoin wallets: mobile, desktop, hardware and web. Mobile wallets are installed on smartphones, and desktop on a personal or portable computers. Web wallets are located on the web server and are accessed via an Internet browser. Hardware wallets are a specific type of Bitcoin wallet since they have their physical representation usually in the form of smart cards. It is recommended that Bitcoin wallet is placed offline, on your computer or the periphery, as the cloud systems and specialized websites appear very tempting to attackers.

---

<sup>1</sup>In computing a *peer* indicates an equivalent entity in a network or each node that communicates directly with other nodes, without requiring authorization to the central server.

<sup>2</sup><https://bitcoin.org/en/choose-your-wallet> (30.6.2015.)

Franco (2015) points out that the heart of Bitcoin is made of distributed database that contains a list of users, record of the funds they own and of all transactions grouped into linked blocks why they are also called chain blocks. Each user ie. Node in the network keeps a copy of that database. In other words, every user controls its assets through a cryptographic private key. When a user wants someone to send funds, by private ie. secret key with an indication of how much Bitcoin it wishes to send and to whom, it creates a message that is broadcasted across the network and each user receives a copy. Each node in the network can independently confirm the validity of the message and update its internal database accordingly.

Drabik (2014) states that the client software generates a unique Bitcoin address. Address is of text type in length from 27 to 34 characters that starts with numbers 1 or 3, contains only digits and the uppercase and lowercase letters of the English alphabet such as „13mckXcnnEd4S EkC27PnFH8dsY2gdGhRvM“. Since its form is very well defined, it can be generated offline ie. without access to the Internet. Each address is associated with the public and secret cryptographic key that is used during the transaction. Antonopoulos (2014) points out that the progress of mobile technology spurred the development of a QR code, a form of barcode containing the address information of Bitcoin wallets, in a form that can be easily scanned by camera of a smartphone. The largest application of QR codes is realized in modern supermarkets where the printed copy is usually located on the toll station. The customer or user of Bitcoin needs only scan the QR code with camera on their smartphone, which will convert that address into the original text form. After that it is necessary to transfer certain funds to the Bitcoin address ie. shops account and the transaction is done. Such mode simplifies and speeds up the payment by Bitcoin because it bridges the input of a long and complicated Bitcoin address. Also transactions recorded in the chain of blocks can be seen as double-entry bookkeeping system where each transaction contains one or more inputs (input), representing debts to Bitcoin account. On the other side of the transaction there is one or more of the output (output), which amounts are added to the Bitcoin account. Inputs and outputs or debits and credits, do not necessarily have to be in balance because of the transaction fees that miners receive for registering transactions in the general ledger, which means that summary amounts of outputs will be slightly smaller.

## **2.2. Mining**

In the virtual world digital money is produced "by digging". Cryptographic currency is typically generated within the P2P network, in regular intervals. In exchange for job of verification and confirmation of transactions and maintenance of system, networked users ie. computers receive rewards in the form of virtual coins. Due to the analogy with the gold, the process is called mining. Like a precious metal, Bitcoin is a limited resource and that is just one of the reasons for its rising price. These same principles also apply to other alternative cryptographic currencies, with the existence of a few exceptions. In mining of cryptographic currency miners competition represents the whole world, where in theory "an equal" opportunity is granted to all who have an Internet connection. Unfortunately, in the real world it is not quite so (Gabelić, 2014). Franco (2015) points out that the monetary policy of Bitcoin network follows a simple rule. The final money mass in the system can reach a maximum of 21 million Bitcoin. New Bitcoin entering the system will be according to planned schedule by the algorithm and will be given to users as a reward to help ensure network operation. In other words, the protocol encodes the formation of new Bitcoin which are distributed to users called miners that maintain the chain blocks. Miner who creates blocks for the award receives a certain amount of new "cast" Bitcoin. The pace of issuing new Bitcoin is halved approximately every 4 years.

Emission of Bitcoin is organized during a period of mining<sup>3</sup>. Each period is characterized by the endpoint or the amount of Bitcoin after which occurs a transition to the following period which causes a reduction in the pace of emission. The first period ended when there was 10.5 million Bitcoin in circulation. Each successive period brings a higher level of mining difficulty and a 50% reduction in total prize money. This means that in the second period it was possible to mine an additional 5.25 million, in the third 2,625,000 etc., Until there is 21 million Bitcoin in circulation. In theory it would take 34 periods which should according to the calculations occur around the year 2140. Kučan (2014) concludes that each day takes more processing time to solve tasks, as in the settings of the initial system are set specified limits, related to the maximum number of Bitcoin and increase in the complexity of their creation from day to day. Therefore, today it takes more time for mining Bitcoin than at the beginning of 2009.

Miners also receive a fee from the transactions published in the chain block, which is less than 1% of their total compensation. It is expected that decrease in the issuance of new Bitcoin the transaction fees will become the main source of income for miners. This provides value to Bitcoin at the time of its scarcity (Franco, 2015).

The application that a user installs on his computer called a miner solves complicated mathematical problems related to the chain blocks. The time to address these problems ie. tasks depends on the parameters and performance of processors and graphics cards, but usually takes place very slowly. In this way, the user's computer is participating in the creation of Bitcoin together with other computers in the Bitcoin network. The user provides network with the processing power and computing resources in exchange for a small portion of Bitcoin. Distribution of Bitcoin takes place in the precise mathematical model according to which a faster and superior computers receive more Bitcoin. While most traditional currency is divided into 100 smaller parts (\$ 1 = 100 cents, 1kn = 100 lipa etc.) Bitcoin extends to 8 decimal places. The smallest unit is called "Satoshi", by an unknown creator of the Bitcoin concept and is 0.00000001 bitcoins. If a miner moves independently, there is a high probability that he will not mine anything because there are always people and organizations with resource stronger and faster computers and additional mining equipment. Therefore, it is necessary to join a group of miners in order to increase the chances of discovering and creating bitcoins. This means that it will be necessary to combine the processing power together with a certain group of users, and in case of finding bitcoins, proportionate to the amount of work and resources, share the prize. Such groups are called Pools. Groups differ according to the set conditions and various privileges offered to miners (Plavljanić, 2013). Individuals and institutions that have Bitcoins must take into account the wide range of risk factors that come with innovations in the Bitcoin system. The ability to cope with security, regulatory, market, technological and security risks will greatly increase the benefits provided by the Bitcoin system and will justify the purpose of its existence.<sup>4</sup> According to the portal bitcoin.com on the day 23.03..2016., in the circulation was 15.3 million bitcoins, and the value of one bitcoin at that day was in the range of low values of \$ 417.99 to the highest value of \$ 420.23.<sup>5</sup>

---

<sup>3</sup>[https://en.bitcoin.it/wiki/Controlled\\_supply](https://en.bitcoin.it/wiki/Controlled_supply)(28.6.2015.)

<sup>4</sup><https://www.lloyds.com/~media/files/news%20and%20insight/risk%20insight/2015/bitcoin%20%20final.pdf>, 23.03.2016.

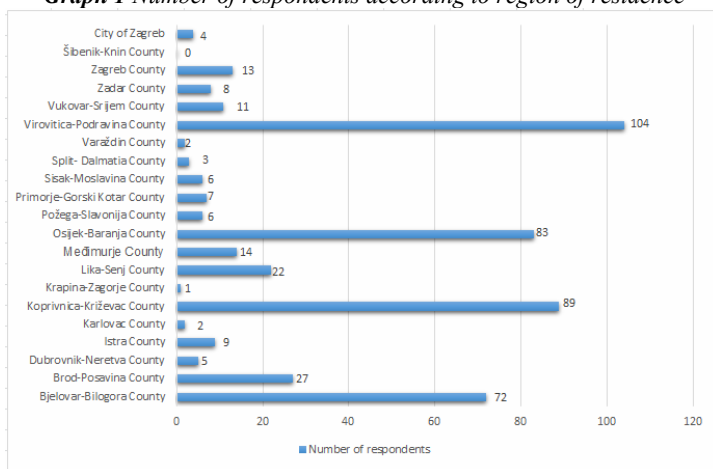
<sup>5</sup><https://price.bitcoin.com/statistics>, 23.03.2016.

### 3. Methodology and results of the research

For purposes of the work a primary research was conducted on a sample of 488 respondents. The survey was conducted by sending a questionnaire via e-mail, social networks and individual interviewing of respondents. The survey was conducted during February and March of 2016., and total time that was needed for the development of the questionnaire, collection of answers and processing of obtained data was about four weeks. Since the objective of the paper is to explore the awareness of respondents about Bitcoin and Bitcoin presence in the Republic of Croatia, the questions in the questionnaire were structured in a way to get answers that would support the aim of the research. The questionnaire had a total of 12 questions of closed and combined type with multiple choice of which 5 questions were related to socio-demographic characteristics of respondents where the respondents had to choose one of the answers. In the questionnaire Lickert scale was used and with 11 statements to measure the attitudes of respondents about the Bitcoin system. Respondents rated their views on a scale of 1- 5 with rating 5 meaning they completely agree, rating 4 agree, rating 3 neither agree nor disagree, rating 2 partially disagree and rating 1 completely disagree with the following statements.

Out of 488 respondents who answered the questionnaire of them 51.8% are belonging to the female sex, and 48.2% are belonging to the male sex. A total of 52.7% were employed ie 257 of respondents. The age distribution of the most common respondents have from 18 to 24 years, and they represent 60.2% of respondents, 19.3% of respondents are between the ages of 25-34 years, 16.2% of respondents are between the ages of 35-44 years while least represented respondents are at the age of 45-54 years (2.5%) and respondents with more than 55 years (1.8%). Most respondents have completed secondary education (75%), master's degree or doctorate 3.5%, 20.3% respondents have completed college or university degree, and least respondents had completed some form of three-year education (1.2%). According to the regional affiliation on Graph 1. shows the number of respondents according to place of residence. Most respondents were from Virovitica- Podravina County 104 (23.3%), and least from the Karlovac County, Varazdin County (0.8%) and Krapina-Zagorje County (0.2%). From the Šibenik-Knin County none of the respondents have answered the questionnaire.

**Graph 1** Number of respondents according to region of residence



Source: Authors work

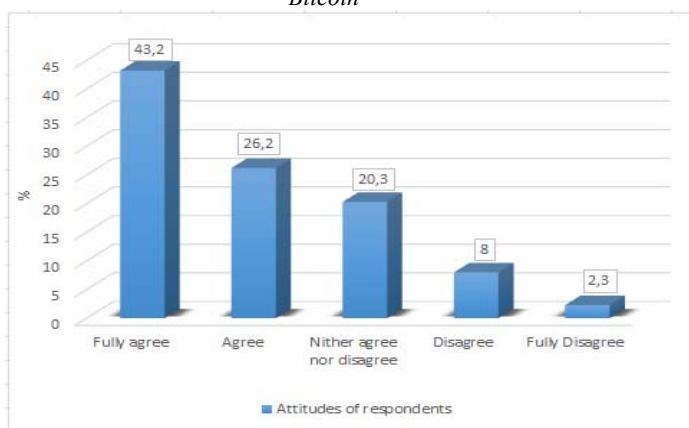


A total of 64.8% of respondents are aware of the concept of Bitcoin system while 35.2% are not fully familiar or had never heard of the concept. Only 3.5% of respondents have Bitcoins, 16% of respondents would like to own Bitcoins, but do not know how to obtain them, 28.2% plan to buy Bitcoins, while 52.3% are not at all interested in buying Bitcoin. When asked if they are familiar with the current value of Bitcoin, 12.5% of respondents said yes, and only 13.3% of respondents know the way to get Bitcoin and where they can be purchased, and the same number of respondents said they are aware of the risks of trading Bitcoin. It is interesting that 50% of respondents believe that there is a possibility that banks implemented Bitcoin system.

When assessing the attitudes of respondents about Bitcoin system, 42% of respondents neither agreed nor disagreed with the statement that globalization processes positively influence the development of Crypto Currency (digital currency). Average value response to this statement is 3.77, which confirms that more respondents agree with the statement than they disagree. The claim that the working principle of Bitcoin system is fully understandable has a high value response of 2.7, which confirms that the respondents do not agree with the above statement. That financing of Bitcoin facilitates money transfers fully agrees 12.5% of respondents, and 26.2% agree with the above statement. Average value response to this claim is 3.3 so majority of respondents neither agreed nor disagreed with the statement. Also most of respondents neither agreed nor disagreed with the statement that decentralization of Bitcoin is its main advantage.

Average value response to claim that inadequate public awareness is the main obstacle to the use of Bitcoin in payment and transactions is 3.95, which means that the majority of respondents agreed with the statement. 43% of respondents neither agree nor disagree with the statement that it is necessary to have knowledge on financial management to be able to trade bitcoin. Graph 2. shows the attitudes of respondents to the statement that the Republic of Croatia is not sufficiently stimulating awareness about payment of products and services by using Bitcoin.

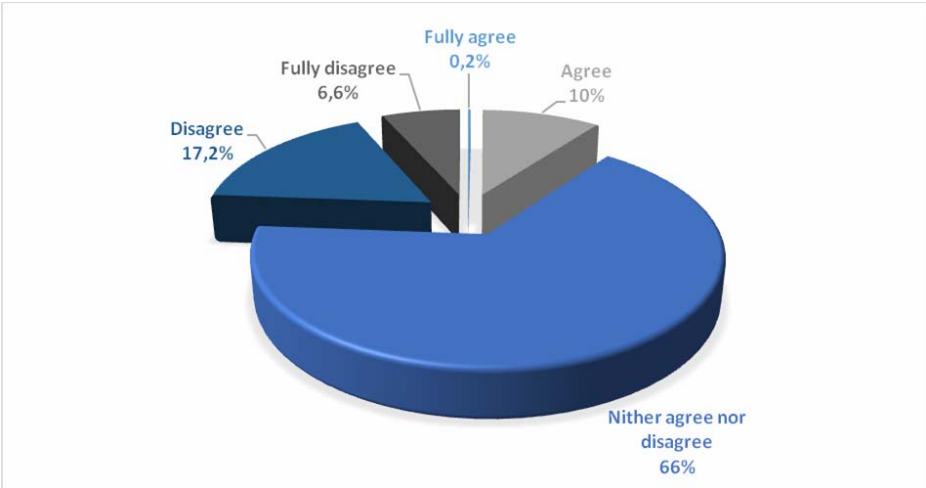
**Graph 2.** *The attitude of the respondents to the statement that the Republic of Croatia is not sufficiently stimulating awareness about payment of products and services by using Bitcoin*



Source: Authors work

Most respondents agree with the claim that it would contribute towards raising awareness about the Bitcoin by informing via public media (29.5% of respondents completely agree, while 41% of respondents agreed with the statement). Average value response to the claim that the further development and advancement of technology greatly facilitate and speeds up payments by Bitcoin is 3.69, which means that the respondents neither agree nor disagree with this statement. The attitude of respondents on the claim that the Bitcoin system is unsustainable is shown in Figure 3 where it is shown that only 0.2% of respondents fully agree with this statement.

**Graph 3** The position of respondents about the statement that Bitcoin system is unsustainable



Source: Authors work

With the statement that the value of Bitcoin in the future will growth fully agrees 19.2% of respondents, 20.5% agree, 6.8% disagree, 2.5% Fully disagree while most respondents neither agree nor disagree with the statement (51%). The average value response of this statement is 3.39.

**4. Conclusion**

Bitcoin system has many advantages such as anonymity, has no supervision and records, there is no inflation because it knows exactly how many bitcoin there are and how much will be produced, there are low transaction costs, but it has several disadvantages such as the possibility of losing value in case of loss of interest in Bitcoins and if you lose Bitcoin wallet Bitcoins are lost as well. Conducted research has led to the interesting insights. A large percentage of respondents (35.2%) are not familiar enough with the Bitcoin system or did not hear of this crypto currency at all. Although in the research have participated respondents of younger population between 18-24 years, Bitcoin can be traded regardless of the level of education or age. Research results have shown that most of respondents do not even want to use Bitcoins and that the main obstacle to trading of Bitcoin in Croatia is insufficient awareness of population about the Bitcoin system. One of the ways to present Bitcoin system

to target groups is information via media, as well as additional education about Bitcoin programs. What is the future of Bitcoin remains to be seen though lately the Bitcoin system is gaining more and more followers.

## REFERENCES

Antonopoulos, A. M. (2014): *Mastering Bitcoin – Unlocking digital cryptocurrencies*, O'Reilly Media, Inc. Sebastopol, California

Buterin, D., Ribarić, E., Savić, S. (2015): *Bitcoin-nova globalna valuta, investicijska prilika ili nešto treće?*, Zbornik Veleučilišta u Rijeci, Rijeka, Vol.3, No.1., pp. 145-158.

Drabik, T. (2014): *Novac u oblaku*. BUG, broj256/ožujak 2014., Zagreb, pp.78-100.

Franco, P. (2015): *Bitcoin – Cryptography, Engineering and Economics*, John Wile & Sons, Ltd., Chichester, United Kingdom

Gabelić, R. (2014): *Rudarenje alternativnih kriptovaluta*, BUG, broj 247/travanj 2014., Zagreb, pp.62-69.

Kučan, B. (2014): *Bitcoin podzemlje*, Mreža – časopis za IT profesionalce, broj3 /ožujak 2014., Zagreb, pp. 90-93.

Lloyds Emerging Risk Report –2015. (2015):*Bitcoin-risk factors for insurance*, Innovation series, <https://www.lloyds.com/~media/files/news%20and%20insight/risk%20insight/2015/bitcoin%20%20final.pdf>(accessed 21 March 2016)

Plavljančić, B. (2013): *Vodič za početnike – Bitcoin*, PCCHIP, <http://pcchip.hr/softver/vodic-za-pocetnike-bitcoin/> (accessed 23 February2016.)

Sečen, I.(2013):*Bitcoin – Prijevara, anarhija ili revolucija?*VIDI <http://www.vidi.hr/Lifestyle/Business-3.0/Bitcoin.-Prijevara-anarhija-ili-revolucija>(accessed 21 February2016.)

<https://bitcoin.org/en/choose-your-wallet> (accessed30 March2016.)

[https://en.bitcoin.it/wiki/Controlled\\_supply](https://en.bitcoin.it/wiki/Controlled_supply) (accessed 28 February2016.)

<https://price.bitcoin.com/statistics> (accessed 23 March 2016.)

**Dina Liović, M.A., PhD candidate**  
J.J.Strossmayer University of Osijek  
Faculty of Economics in Osijek  
Trg Ljudevita Gaja 7  
31 000 Osijek  
+385(0)31 22 44 64  
dinali@efos.hr

**Dražen Novaković, M.A., PhD candidate**  
J.J.Strossmayer University of Osijek  
Faculty of Economics in Osijek  
Trg Ljudevita Gaja 7  
31 000 Osijek  
+385(0)31 22 44 64  
dnovakov@efos.hr

## **THE POSSIBILITIES OF CURRENCY RISK MANAGEMENT**

### **MOGUĆNOSTI UPRAVLJANJA VALUTNIM RIZIKOM**

#### ***ABSTRACT***

*By doing business with foreign partners, every company - regardless of its size, activity and location, is faced with the existence of the currency risk. The company's awareness of the exposure to currency risk is of immense importance, as its negative effects could be treated by applying appropriate business policies and instruments. International business relations of Croatian real sector companies are becoming more and more important, especially after the Croatian accession to the European Union. As this trend is also present in eastern Croatia, there is a growing need to understand the possible consequences of currency risk exposure.*

*Therefore, the aim of this paper is to explore the availability of various financial instruments for managing currency risk in Croatia, as well as to determine the level of their application in the eastern Croatian companies. Large companies from five Slavonian counties which operate also on the international market have been observed. The paper will analyze companies' approach to the currency risk problem, their awareness of the existing management instruments and the degree of their implementation. The paper will present in detail the forms of currency risk, such as transaction, translation and economic exposure, as well as the appropriate methods for its managing. The two major groups of these methods - internal and external, differ substantially in their availability - internal methods are available to each company naturally, while external ones depend on the development of the financial system. Analysis of exposure types and available instruments will be carried out by using comparative and descriptive methods while the situation in the companies will be examined by conducting a survey. Due to undeveloped Croatian financial system and lack of information on different instruments for currency risk management, it is necessary to raise companies' awareness of the currency risk exposure to properly manage it.*

**Key words:** *currency risk, eastern Croatia, risk management, exposure types, financial instruments*

## SAŽETAK

*Poslovanjem s inozemnim partnerima, svako je poduzeće - bez obzira na svoju veličinu, djelatnost i lokaciju, suočeno s postojanjem valutnog rizika. Neizmjerne je važnost osviještenosti poduzeća o izloženosti valutnom riziku, čije je negativne utjecaje na poslovni rezultat moguće tretirati primjenom adekvatne poslovne politike, odnosno upotrebom odgovarajućih instrumenata. Međunarodno poslovanje hrvatskih poduzeća u realnom sektoru sve je značajnije, posebice nakon pristupanja Republike Hrvatske Europskoj uniji. S obzirom na prisutnost ovog trenda i u istočnoj Hrvatskoj, raste potreba za razumijevanjem mogućih posljedica izloženosti valutnom riziku.*

*Stoga, cilj ovoga rada jest istražiti dostupnost različitih financijskih instrumenata za upravljanje valutnim rizikom u Hrvatskoj, kao i utvrditi stupanj primjene istih u poduzećima istočne Hrvatske. Promatrana su velika poduzeća s područja pet slavonskih županija koja posluju i na međunarodnom tržištu. Radom se želi analizirati na koji način poduzeća promatraju problem valutnog rizika, jesu li svjesna postojećih mogućnosti upravljanja navedenim rizikom te koliki je stupanj primjene pojedinih metoda. U radu će detaljno biti prikazani oblici izloženosti valutnom riziku, poput transakcijske, računovodstvene i ekonomske izloženosti, kao i odgovarajuće metode za njegovo pokrivanje. Osnovna razlika između dviju glavnih skupina spomenutih metoda – unutarnjih i vanjskih, leži u dostupnosti istih – unutarnje su metode dostupne svakom poduzeću same po sebi, dok vanjske pak ovise o razvijenosti financijskog sustava pojedine zemlje. Analiza oblika izloženosti i dostupnih instrumenata će biti provedena korištenjem komparativne i deskriptivne metode dok će se stanje u poduzećima ispitati anketnim istraživanjem. Obzirom na relativnu nerazvijenost hrvatskog financijskog sustava i slabu informiranost o različitim mogućnostima upravljanja valutnim rizikom, nužno je upoznati poduzeća s problemom izloženosti valutnom riziku kako bi njime mogla primjereno upravljati.*

**Ključne riječi:** valutni rizik, istočna Hrvatska, upravljanje rizikom, oblici izloženosti, financijski instrumenti

### 1. Introduction

Currency risk, foreign exchange risk or exchange-rate risk arises because of uncertainty about the exchange rate prevailing in the future. It refers to the variability of the base currency value of assets, liabilities and cash flows resulting from the variability of the exchange rate. Therefore foreign exchange risk arises when a firm indulges in international operations involving currencies other than the base currency, including importing, exporting, investing and financing. As a result, the firm will be exposed to assets, liabilities and cash flows denominated in currencies other than the base currency (Moosa, 2003). A firm is exposed to currency risk whenever its payables and receivables in foreign currencies are not matching in terms of amount and settlement (Tuškan, 2009). Free floating regimes of the main world currencies are cause of existence of this currency risk. Up to 1973, when the Bretton Woods Agreement was abandoned, exchange rates for majority of world's industrialized countries' currencies were relatively stable. Fluctuations were rare and of small magnitude making business transactions in foreign currency safe in terms of the currency risk. However, introduction of fluctuating exchange rates led to strong increase in exchange rates volatility.

As it is said before, every business operation in a currency different than domicile, necessarily means that the firm is exposed to currency risk. The Croatian companies are exposed to these same problems, especially after the Croatian accession to the European Union. This increased currency risk exposure is the reason why this paper aimed to explore the availability of various financial instruments for managing currency risk in Croatia and to determine the level of their application in

the eastern Croatian companies. Large companies from five Slavonian counties which operate also on the international market have been observed. The paper includes three chapters. The first chapter deals with the theoretical background of the observed problem as it is necessary to gain an insight into main characteristics of the currency risk if one is to understand the possible solutions. Therefore, the first chapter will present in detail the forms of currency risk, such as transaction, translation and economic exposure, as well as the appropriate methods for its managing. The two major groups of these methods - internal and external, differ substantially in their availability. The second chapter gives an overview of the previous researches concerning the problem of currency risk management. This literature is numerous both in Croatia and in the world. The main findings are described to enable comparison with the case of the eastern Croatian companies. Finally, in the third chapter of this paper companies' approach to the currency risk problem, their awareness of the existing management instruments and the degree of their implementation is analyzed. The analysis of the exposure types and the available instruments is carried out by using comparative and descriptive methods while the situation in the companies is examined by conducting an interview survey.

## **2. Theoretical background**

After giving the definition of the currency risk, it is necessary to gain an insight into the main characteristics of the observed problem. The firm's very first step in this process of managing the currency risk is to determine the specific type of current risk exposure. After that, it should determine the hedging strategy and the available instruments to deal with these currency risks. The three main types of currency risk exposures are transaction exposure, translation exposure and economic exposure (Papaioannou, 2006). Transaction exposure is basically cash flow risk and deals with the effect of exchange rate moves on transactional account exposure related to receivables (export contracts), payables (import contracts) or repatriation of dividends. An exchange rate change in the currency of denomination of any such contract will result in a direct transaction exchange rate risk to the firm. Translation exposure is basically balance sheet currency risk and relates exchange rate moves to the valuation of a foreign subsidiary and to the consolidation of a foreign subsidiary to the parent company's balance sheet. In consolidating financial statements, the translation could be done either at the end-of-the-period exchange rate or at the average exchange rate of the period, depending on the accounting regulations affecting the parent company. Income statements are usually translated at the average exchange rate over the period while balance sheet exposures are often translated at the prevailing current exchange rate at the time of consolidation. Finally, economic exposure reflects basically the risk to the firm's present value of future operating cash flows from exchange rate movements. In essence, economic risk concerns the effect of exchange rate changes on revenues (domestic sales and exports) and operating expenses (cost of domestic inputs and imports) (Papaioannou, 2006). According to same author, economic exposure is usually applied to the present value of future cash flow operations of a firm's parent company and foreign subsidiaries. Identification of the various types of currency risk, along with their measurement, is essential to develop a strategy for managing currency risk.

After defining the types of exchange rate risk that a firm is exposed to, next step is the measurement of these risks. Measuring currency risk, especially translation and economic ones, could be difficult. At present, a widely used method is the value-at-risk (VaR) model where value at risk is defined as the maximum loss for a given exposure over a given time horizon with  $z\%$  confidence. The VaR methodology can be used to measure a variety of types of risk, helping firms in their risk management. (Papaioannou, 2006)

After identifying the types of currency risk and measuring the associated risk exposure, a firm needs to decide whether to hedge (manage) or not these risks. In practice corporate treasurers have used various currency risk management strategies depending on the type of risk and the size of the firm

(Papaioannou, 2006). There are two main groups of techniques available for the currency risk management - internal and external ones. The internal techniques are those used in firms by themselves while the external ones are offered by financial system. As currency hedging is often costly, a firm should first consider internal techniques also called "natural" hedging. The easiest way, although not very likely to happen, is to insist that all foreign customers pay in company's home currency and that company pays for all imports in its' home currency. Second technique - matching - is possible if a company has receipts and payments in the same foreign currency due at the same time. In such case, a company can simply match them against each other. However, company needs to deal on the forex markets for the unmatched portion of the total transactions. Netting as an internal technique involves the consolidated settlement of receivables, payables and debt among the subsidiaries of a firm (Tuškan, 2009). Multinational firms often use a strategy called 'leading and lagging'. This strategy involves a company bringing forward or delaying payments or receipts of foreign currency with its subsidiaries or business partners to offset the currency risks associated with other foreign currency transactions. This may be achieved by agreement or by exceeding credit terms. If an importer expects that the currency it is due to pay will depreciate, it may attempt to delay payment. If an exporter expects that the currency it is due to receive will depreciate over the next three months it may try to obtain payment immediately (Tuškan, 2009). Some firms are also able to achieve a partial natural hedge through the correlation between the price of the goods they produce and the exchange rate. Firms may also manage currency risk exposure by having sufficient currency diversification across their costs and revenues, or assets and liabilities. Diversification should reduce aggregate currency exposure, at least to a level below the sum of all individual exposures (Becker, Fabbro, 2006). This technique is also referred to as 'pooling'.

Currency risk management includes also the external methods which are actually application of the various hedging instruments. The available hedging instruments are numerous, varying in complexity. This variety is caused by the dramatic increase in the specific hedging needs of the modern firm. These instruments include both OTC and exchange-traded products (Papaioannou, 2006). However, one of the possible currency risk management strategies is taking position (long or short) opposite to one currently exposed to currency risk. According to Tuškan (2009), this technique enables management of the complete currency risk of some position with low costs. Among the most used hedging instruments on the OTC market are currency forwards and cross currency swaps. Currency forwards are defined as buying a currency contract for future delivery at a price set today. The two most common types of forwards contracts are outright forwards, which involve the physical delivery of currencies and non-deliverable forwards which are settled on a net cash basis. With forwards, the firm is fully hedged. However, the high cost of forward contracts and the risk of the exchange rate moving in the opposite direction are serious disadvantages (Papaioannou, 2006). The two broadly used cross-currency swaps are the cross-currency coupon swap and the cross-currency basis swaps. The cross-currency coupon swap is defined as buying a currency swap and at the same time pay fixed and receive floating interest payments. Its advantage is that it allows firms to manage their foreign exchange rate and interest rate risks, as they wish, but the firm that buys this instrument is vulnerable to both currency and interest rate risk. Cross-currency basis swap is defined as buying a currency swap and at the same time pay floating interest in a currency and receive floating in another currency. However, Papaioannou (2006) points out that the major disadvantage is that the primary risk for the firm is interest rate risk rather than currency risk.

When it comes to exchange-traded hedging instruments, the two main instruments are currency futures and currency options, both derivatives. By using these instruments, firms take position opposite to one exposed to currency risk. Currency futures are exchange-traded contracts specifying a standard volume of a particular currency to be exchanged on a specific settlement date (Papaioannou, 2006). The main advantage of using currency futures for currency risk hedging,

compared to the previous methods, is fact that firm does not need to engage funds equal to position exposed to the currency risk. It is necessary only to pay initial margin defined as an percentage of underlying contract value (Tuškan, 2009). These currency futures are similar to forward contracts as both allow a firm to fix the price to be paid for a given currency at a future point in time. However, there are also significant differences both in terms of the available traded currencies and the typical (quarterly) settlement dates. If a firm holding currency futures contract decides before the settlement date that it no longer wants to maintain such a position, it can close out its position by selling an identical futures contract. This can not be done with forward contracts (Papaioannou, 2006). It could be said that the main disadvantage of the currency futures is the previously mentioned fact that they are standardized which leads to only partial protection from currency risk (Tuškan, 2009). On the other side, a currency option is a right, but not an obligation, to buy or sell a currency at an exercise price on a future date. Facing a favourable movement in exchange rates, the company will simply be allowed to leave the option to lapse and to take advantage of this favourable movement. The right will only be exercised to protect against an adverse movement. A call option gives the holder the right to buy while a put option gives the holder the right to sell the underlying currency. Their main advantages are their simplicity, lower cost than the forward contracts and the predicted maximum loss which is the premium paid to obtain currency option. Papaioannou (2006) also states that the cost of a currency option is higher than other sophisticated options structures like call spreads.

### **3. Previous researches**

The problem of the currency risk exposure management has been the subject of many foreign and domestic research papers. Various aspects of this problem have been observed. However, in Croatia this subject was often studied in a wider context of risk management. For instance, Miloš Sprčić (2007) analysed financial risk management practices and derivative usage in large Croatian and Slovenian non-financial companies. She concluded that forwards and swaps are by far the most important derivative instruments in both countries. Futures are more important for the Slovenian than for the Croatian companies, while exchange-traded and OTC options are unimportant means of financial risk management in both countries. Slovenian companies use all types of derivatives more intensively than Croatian companies. Miloš Sprčić et al. (2008) analysed corporate risk management practices in the large Croatian non-financial companies. They have discovered that commercial banks are the most important in providing risk management instruments and the primary source for derivatives transactions. Tuškan (2009) pointed out a problem of insufficient usage of existing financial derivatives in market risk management by domestic financial and business subjects which have been using only basic derivatives, foreign exchange swaps and forwards. However, it should be emphasized that even such low level of the derivatives usage represented particular advancement on the domestic financial market as there was no derivatives at all up to 2004. Banks' financial reports were only source of data for keeping track on development of that new, modest sector of the financial market.

Sučić et al. (2011) explored exposure of large Croatian non-financial companies to different financial risks and their risk management practices. They revealed that 93% of the analysed companies use some form of financial risk management and manage at least one financial risk. Companies are exposed mainly to commodity price risk and the exchange-rate risk. In fact, there was no analysed company claiming not to be exposed to exchange-rate risk. The authors also discovered that Croatian non-financial companies mainly use simple risk management instruments like natural hedging. Forwards and swaps are most used derivatives but 42.5% of the analysed companies do not use derivatives at all. When it comes to exchange-rate risk, the most used technique is managing of the assets and liabilities' currency structure. It is followed by using forwards and swaps. International diversification of targeted market should also be mentioned. Managers' inadequate knowledge and insufficient supply of risk management instruments on



domestic market have been seen as main reasons for the lack of using more sophisticated risk management techniques. These results are almost the same as results presented by Miloš Sprčić et al. (2008).

On the other hand, there are numerous foreign research papers dealing only with the currency risk exposure management. Chow et al. (1997) found that the exchange rate exposure of individual firms increases with the return horizon. The differences in the magnitude of exposure of individual firms are significantly related to firm size but not to the relative portion of foreign sales to total sales. The empirical evidence was consistent with the hypothesis that hedging activities exhibit economies of scale so the magnitude of economic exposure is less for larger firms than for smaller ones. Bodnar and Gebhardt (1999) made comparative study on derivative usage among US and German non-financial firms. They found that 78% of German firms used derivatives compared to 57% of US firms. In both countries, foreign currency derivative usage is most common, followed closely by interest rate derivatives. Firms in the two countries differ notably on issues like the primary goal of hedging, their choice of instruments and the influence of their market view when taking derivative positions. These differences could be driven by the greater importance of financial accounting statements in Germany than the US and stricter German corporate policies of control over derivative activities within the firm. Loderer and Pichler (2000) surveyed the currency risk management practices of Swiss industrial corporations finding that they do not quantify their currency risk exposure. One of the possible reasons is that firms do not think they need to know their exposure because they use on-balance-sheet instruments to protect themselves before and after currency rates reach troublesome levels. It is puzzling that firms use currency derivatives to hedge/insure individual short-term transactions, without apparently trying to estimate aggregate transaction exposure.

Hagelin and Pramborg (2004) used a sample of Swedish firms and investigated the risk reducing effect of foreign exchange exposure hedging, obtained by different hedging instruments. They found that firms' foreign exchange exposure is increasing with the level of inherent exposure, measured as the difference between revenues and costs denominated in foreign currency, and that it is decreasing with firm size. They also found a significant reduction in foreign exchange exposure from the use of financial hedges. Muller and Verschoor (2005) empirically found that exchange risk exposure is time-varying, horizon-dependent and non-linear in nature. One year later, Muller and Verschoor (2006) found that about 13% of analysed 817 European multinational firms experienced economically significant exposure effects to the Japanese yen, 14% to the US dollar and 22% to the UK pound. They discovered that a depreciating euro against foreign currencies has a net negative impact on European stock returns. Short-term exposure seems to be relatively well hedged. Finally, foreign exposure is found to increase with firm size. Papaioannou (2006) used the U.S. data and found that larger firms use derivative instruments in hedging its currency risk exposure. U.S. firms use hedging primarily to minimize the variability in their cash flow and earning accounts while the most used derivatives are OTC currency forwards (over 50% of all foreign exchange derivatives used), OTC currency options (20%) and OTC currency swaps (10%). Bartram (2007) estimated the foreign exchange rate exposure of 6,917 U.S. nonfinancial firms on the basis of stock prices and corporate cash flows. Several firms seemed to be significantly exposed to exchange rate of either Canadian dollar, Japanese yen and euro.

Bodnár (2009) examined the exchange rate exposure of Hungarian enterprises from a financial stability perspective. To collect company-level data, two surveys were carried out on exchange rate exposure and exchange rate risk management practices. The first survey carried out in 2005 showed that the majority of small and medium-sized enterprises are exposed to exchange rate depreciation, but that exchange rate risk management techniques are almost unknown to them. Based on the results of the 2007 survey, the main motive for raising debt in foreign currency is lower interest rates, while at large enterprises natural hedging also appears as a factor. The main reason for

ignoring currency risk is that its management tools are thought to be expensive, complicated or ineffective. The majority of enterprises think there are no suitable tools to manage currency risk or they expect external solutions, such as the introduction of the euro to decrease their exposure. This idea has support in findings of Bartram and Karolyi (2004) who found that the introduction of Euro led to a net absolute decrease in the foreign exchange rate exposure of nonfinancial firms in countries now using euro. Bartram et al. (2013) studied the currency risk exposures of a sample of firms that undertake large acquisitions of foreign companies. They examined how the exposures change from before to after the acquisition finding that they generally lead to reduced currency exposure reflecting the fact that most of the firms already have business in the target's country and the mergers serve as operational hedges.

#### **4. Results of the interview survey**

As the aim of this paper is to determine current state of currency risk management in eastern Croatian companies, the interview survey was taken. Observed companies were several large companies (more than 100 employees on average) based in eastern Croatia and operating on domestic market, with majority of them operating also on markets of both EU and non-EU countries. Companies' approach to the currency risk exposure, their awareness of the existing management instruments and the degree of their implementation were questioned and analyzed. First analyzed aspect was currency risk exposure through financing activities. All observed companies stated that they currently use financing through the bank loans. Half of the observed companies have debt in domestic currency prevailing in structure of liabilities while for the second half, debt denominated in foreign currencies is more significant. The euro is the most common currency used. The analysis of the reasons behind financing through loans in foreign currency reveals that majority of them find such loans more affordable in overall terms while some companies stated that it was only loan they could get. The most important factors when deciding on taking bank loan are the purpose for which the funds will be used, the interest rate, predictability of repayment and the exchange rate, respectively. Overall, observed companies find loans in foreign currency cheaper and equally risky compared to the loans in domestic currency. When it comes to currency risk exposure through business operations, all observed companies have contracts with domestic partners, either customers or suppliers, where price or payment is contracted in a foreign currency. Majority of them (75%) claimed that the 10% depreciation of domestic currency would have negative effects on them. Introduction of the euro as a currency in Croatia and more affordable loans in domestic currency are seen as the most possible solutions for a fewer currency risk exposure. Natural hedging, larger price margin (giving flexibility), cash-pooling and financial derivatives are known as currency risk management instruments for most of the observed companies. In addition, 75% of observed companies use some of the following currency risk management instruments - larger price margin, cash-pooling and natural hedging. Those companies which do not manage their currency risk exposure state that either they will not be affected by exchange rate volatility or they do not predict any serious exchange rate movements. Some companies also stated that the currency risk exposure management is under control of a parent company.

#### **5. Conclusion**

Results of the interview survey showed that larger eastern Croatian companies are aware of currency risk exposure to some extent. Similar to previous domestic researches, it is obvious that companies do not use even all currency risk management techniques that they know and there are some they are not even aware of. This unsatisfying state is not so much caused by undeveloped Croatian financial system as much as by lack of information on different instruments for currency risk management. That is the reason why it is necessary to raise companies' awareness of the currency risk exposure. Managers can not properly manage it without sufficient information and

knowledge. The survey carried out for this paper revealed the significance of this problem. However, further analysis should follow which will analyze larger number of companies, including smaller ones as well, and which will give deeper insight of the unawareness of currency risk exposure by the eastern Croatian companies.

## REFERENCES

Bartram, S. M. (2007): *Corporate Cash Flow and Stock Price Exposures to Foreign Exchange Rate Risk*. Journal of Corporate Finance, Vol. 13, No. 5, pp. 981-994, <http://ssrn.com/abstract=985413>. (accessed 21 February 2016)

Bartram, S. M., Burns, N., Helwege, J. (2013): *Foreign Currency Exposure and Hedging: Evidence from Foreign Acquisitions*, Vol.3, No.2, pp. 20, <http://ssrn.com/abstract=1116409>. (accessed 23 March 2016)

Bartram, S. M. and Karolyi, G. A. (2010): *The Impact of the Introduction of the Euro on Foreign Exchange Rate Risk Exposures*. Journal of Empirical Finance, Vol.13, No. 4-5, pp. 519-549, <http://ssrn.com/abstract=299641>. (accessed 24 February 2016)

Becker, C., Fabbro, D. (2006): *Limiting Foreign Exchange Exposure through Hedging: The Australian Experience*. Economic Research Department, Reserve Bank of Australia, Research discussion paper, pp. 1-34, <http://www.rba.gov.au/publications/rdp/2006/pdf/rdp2006-09.pdf>. (accessed 11 March 2016)

Bodnar, G. M., Gebhardt, G. (1999): *Derivatives Usage in Risk Management by US and German Non-Financial Firms: A Comparative Survey*. Journal of International Financial Management & Accounting, Vol. 10, No.3, pp. 153–187.

Bodnár, K. (2009): *Exchange rate exposure of Hungarian enterprises – results of a survey*. Central Bank of Hungary, occasional papers, No.80, available at: <https://www.mnb.hu/letoltes/op-80.pdf>. (accessed 11 March 2016)

Chow, E. H., Lee, W. Y., Solt, M. E. (1997): *The economic exposure of U.S. multinational firms*. Journal of Financial Research, Vol.20, No.2, pp. 191–210.

Hagelin, N., Pramborg, B. (2004): Hedging Foreign Exchange Exposure: Risk Reduction from Transaction and Translation Hedging. Journal of International Financial Management & Accounting, Vol. 15, pp. 1-20, <http://ssrn.com/abstract=513664>. (accessed 25 March 2016)

Moosa, Imad A. (2003): *International Financial Operations: Arbitrage, Hedging, Speculation, Financing and Investment*. New York, NY: Palgrave Macmillan, Vol.1, pp. 362, <http://www.palgraveconnect.com/pc/doi/10.1057/9781403946034>. (accessed 06 April 2016)

Miloš Sprčić, D. (2008): *Izvedenice kao instrument upravljanja financijskim rizicima: primjer hrvatskih i slovenskih nefinancijskih poduzeća (The Derivatives as Financial Risk Management Instruments: The Case of Croatian and Slovenian Non-financial Companies)*. Financijska teorija i praksa, Vol.31, No.4, pp. 387-413.

Miloš Sprčić, D., Tekavčić, M., Šević, Ž. (2008): *Prakse upravljanja korporacijskim rizicima u hrvatskim poduzećima (Corporate Risk Management Practices in Croatian Companies)*. Ekonomski pregled, Vol.59, No.7-8, pp. 344-369.

Muller, A., Verschoor, W. F. C. (2006): *European Foreign Exchange Risk Exposure*. European Financial Management, Vol.12, No.2, pp. 195-220, <http://ssrn.com/abstract=884281>. (accessed 24 February 2016)

Muller, A., Verschoor, W. F. C. (2006): *European Foreign Exchange Risk Exposure: Survey and Suggestions*. Journal of Multinational Financial Management, Vol.16, No.4, pp. 385-410.

Papaioannou, M. G. (2006): *Exchange Rate Risk Measurement and Management: Issues and Approaches for Firms*. IMF Working Paper No. 06/255., pp. 3-20, <http://ssrn.com/abstract=947372>. (accessed 21 February 2016)

Loderer, C. F., Pichler, K. (2000): *Firms, Do You Know Your Currency Risk Exposure? Survey Results*, Vol.7, No.3-4, pp. 317-344, <http://ssrn.com/abstract=203151>. (accessed 11 March 2016)

Sučić, J. H., Miloš Sprčić, D., Zoričić, D. (2011): *Upravljanje financijskim rizicima u hrvatskim poduzećima (Financial risk management in Croatian companies)*. Zbornik Ekonomskog fakulteta u Zagrebu, Vol.9, No.1, Ekonomski fakultet u Zagrebu, Zagreb, pp. 71-88.

Tuškan, B. (2009): *Upravljanje rizicima upotrebom financijskih derivativa u RH (The role of financial derivatives in risk management)*. Zbornik Ekonomskog fakulteta u Zagrebu, Vol.7, No.1, Ekonomski fakultet u Zagrebu, pp. 107-120.

**Helena Miličević Lubar, univ.spec.oec.**

Ministry of Finance, Tax administration

Regional office Slavonija and Baranja, Branch office Osijek

31000 Osijek, Županijska 4

Phone: +385 91 535 5585

E-mail: helena.milicevic.lubar@gmail.com

**Katica Križanović, univ.spec.oec., PhD candidate**

University of J.J. Strossmayer in Osijek,

Faculty of Economics in Osijek

31000 Osijek, Trg Ljudevita Gaja 7

Phone: +385 91 224 4073

E-mail: katica.krizanovic@gmail.com

**Anamarija Delić, assistant professor**

Josip Juraj Strossmayer University of Osijek

Faculty of Economics in Osijek

31000 Osijek, Trg Ljudevita Gaja 7

E-mail: adelic@efos.hr

## **CROWDFUNDING – MODEL FOR FINANCING DEVELOPMENT PROJECTS IN EASTERN CROATIA**

## **CROWDFUNDING – MODEL ZA FINANCIRANJE RAZVOJNIH PROJEKATA ISTOČNE HRVATSKE**

### ***ABSTRACT***

*Crowdfunding presents a new way to raise financial resources necessary to realize an idea. These are online micro-investments – donations meant to help the initiators of a project to make their first entrepreneurial steps, that is, to raise startup capital. The advantage of this kind of financing is the fact that projects are financed by individuals and anyone can actually raise money, if they have a good project.*

*The idea for such original way of raising money has spread all over the world in recent years. It has been accepted well in Croatia as well, and there is a series of Croatian projects which have been realized thanks to this way of financing.*

*Specific for this way of financing is the fact that the money is raised / invested through crowdfunding platforms, i.e. internet sites. First of all, attracting investments depends on the ability of a project initiator to make a good campaign and successfully present their project to potential investors, thus encouraging them to finance the project.*

*The goal of this paper is to inform potential project initiators about this alternative way of financing, crowdfunding platforms where financial resources are raised, and how to use the crowdfunding to realize an idea, encourage creativity, innovations and entrepreneurship.*

**Key words:** *crowdfunding, crowdfunding platforms, crowdfunding campaign, project realization*

## SAŽETAK

*Crowdfunding (hrvatski: grupno financiranje) predstavlja nov način prikupljanja novčanih sredstava potrebnih za realizaciju ideje. Radi se o online mikroulaganjima – donacijama kojima se želi pomoći inicijatorima projekta napraviti prve poduzetničke korake odnosno prikupiti početni kapital. Prednost ovakvog načina financiranja je činjenica da projekte financiraju pojedinci te da do novca, uz dobar projekt, zapravo može doći svatko.*

*Ideja za ovakav originalni način prikupljanja novca posljednjih godina proširila se svijetom. Na dobar odjek naišla je i u Hrvatskoj te postoji cijeli niz hrvatskih projekata koji su realizirani upravo zahvaljujući ovakvom načinu financiranja.*

*Specifično za ovaj način financiranja jest da se novac prikuplja - ulaže putem crowdfunding platformi odnosno internet stranica. Prije svega, privlačenje investicija ovisi o sposobnosti inicijatora projekta da napravi dobru kampanju i svoj projekt uspješno predstavi potencijalnim ulagačima te ih tako potakne na financiranje projekta.*

*Cilj ovog rada je upoznati potencijalne inicijatore projekata s ovim alternativnim načinom financiranja, crowdfunding platformama na kojima se prikupljaju novčana sredstva, te kako iskoristiti crowdfunding za realizaciju ideje, poticanje kreativnosti, inovacija i poduzetništva.*

**Ključne riječi:** *crowdfunding, crowdfunding platforme, crowdfunding kampanja, realizacija projekta*

### 1. Introduction

When realizing any project, financial aspect has one of a key role. Insufficient financial resources is a major obstacle that project initiators face. Since project initiators have trouble accessing financing sources, the idea of alternative way of financing presents the best choice. Crowdfunding presents a new way to raise financial resources necessary to realize an idea. These are online micro-investments – donations meant to help the initiators of a project to make their first entrepreneurial steps, that is, to raise startup capital.

Steinberg and DeMaria (2012) define “...crowdfunding is the process of asking the general public for donations that provide startup capital for new ventures.”

“Crowdfunding is an initiative undertaken to raise money for a new project proposed by someone, by collecting small to medium-size investments from several other people (i.e., 5 a crowd).” (Ordanini, 2009). According to the European Commission (2014): “Crowdfunding generally refers to an open call to the public to raise funds for a specific project.” The Cambridge Centre for Alternative Finance defines crowdfunding like a form of alternative finance, which has emerged outside of the traditional financial system (i.e. regulated banks and capital markets).<sup>1</sup>

Public calls are usually carried out using the internet or social networks (Facebook, Twitter or LinkedIn) and have a time limit. With their help, one can quickly and relatively easy present a new project and attract investors. Funds are collected from family and friends as well as from a large number of unknown investors, each of them contributing to the project with a small amount of capital.<sup>2</sup>

This kind of investments finances projects that otherwise would not be financed in a traditional way (due to potential risk they present to investors, insufficient interest, unfavourable credit

<sup>1</sup><https://www.jbs.cam.ac.uk/faculty-research/centres/alternative-finance/> (accessed on 13 April 2016)

<sup>2</sup><http://www.investopedia.com/terms/c/crowdfunding.asp>, (accessed on 28 April 2016)

placement etc.), or potentially good projects that would have much trouble raising funds in financial markets. Crowdfunding can be used to finance different kinds of projects and thus contribute to encouraging investments.

Ordanini et al. (2011) define crowdfunding as a tripartite system consisting of:

1. project initiator,
2. people who are financing the project,
3. platform that connects the initiator and the investors.

Table 1 shows types of crowdfunding according to the ways of financing.

**Table 1** Types of crowdfunding according to the ways of financing

Types of crowdfunding	Description	Forms of crowdfunding
donation-based crowdfunding	- based on money donations without a reward	<b>CROWD SPONSORING</b>
rewards-based or pre-sales crowdfunding	- based on money donations with a symbolic reward <sup>3</sup>	
profit-sharing crowdfunding	- ensures a portion of the project's future income	<b>CROWD INVESTING</b>
securities-based crowdfunding	- based on shareholding	
	- lending money (with or without interests)	<b>CROWD LENDING</b>

Source: The authors according to the European Commission data (2014)

Crowdfunding models mentioned in the table above are basic models which are used today in crowdfunding campaigns. But, since the crowdfunding is still in its development phase, the mentioned models will surely further develop in the future.

## 2. Why Choose Crowdfunding?

Numerous authors point out advantages of crowdfunding compared to some other ways of financing projects. So, Wardrop et al. (2016) point out: “*Online alternative finance continues to break new ground with market growth, product innovation, technological advancement, corporate partnerships, international expansion and regulatory recognition.*” Moreover, according to the European Commission (2014) *crowdfunding can offer various benefits to a large spectrum of users partly because of its flexibility, community engagement, and the variety of financing forms it can offer.*

Other authors<sup>4</sup> point out as advantages of crowdfunding:

- *Reach* –When using crowdfunding platforms, project is accessible to thousands of investors, who have access to the campaign at all times. If they recognize it as promising,

<sup>3</sup>like the opportunity to participate in the cultural experience they finance (e.g. appearing as an extra in a film), or a product that was developed and produced with the funds raised.

<sup>4</sup><https://www.fundable.com/learn/resources/guides/crowdfunding-guide/what-is-crowdfunding>, (accessed on 28 April 2016)

not only will they invest into the project, but they will share the contents of the campaign on social networks and thus attract additional investors.

- *Project insight*–When creating a crowdfunding campaign, the initiator gets a detailed insight into their own project and it can be adapted and improved at any time, which results in a higher quality product.
- *Marketing*–Throughout the campaign, the project can be promoted on social networks, via e-mail newsletters, and similar online marketing tactics. Potential investors can be additionally rerouted to the project’s web site, where they can be informed about it in more details.
- *Immediate assessment of the project’s quality*–Presentation of the project to a large number of people provides an excellent opportunity to adapt it to the market needs. Potential investors can immediately express their opinions on the project and further improve it in that way.
- *Efficiency* - Online crowdfunding platform makes fund raising easy in a unique way, since all project-related information is in one place. This significantly reduces expenses and time needed, that would otherwise be spent on presentation of the project to each individual investor through making offers, printing documentation etc.

Contrary to numerous advantages, this way of financing has its own disadvantages, such as<sup>5</sup>: small number of people and internet users, low computer literacy, insufficient development and lack of trust towards electronic business, disincentive legislative framework and impoverishment of citizens. Furthermore, Agraulet al (2014) as disadvantages of crowdfunding point out:

- *Loss of reputation due to non-compliance* –if the project does not succeed in collecting the requested funds, or the deadline for completion of the product is not met, the consequence will be the loss of reputation.
- *Stealing ideas*–since the project is available to all interested parties, there is a possibility of copying the idea. Stolen project can become more successful and in the end lead the original to failure.
- *Misuse of funds*–Project initiators can misuse the raised funds and spend them inappropriately, which could in the end turn investors away from further investments.

However, despite the aforementioned disadvantages, crowdfunding can surely encourage development of entrepreneurial projects, not only as an easy access to capital, but also as a marketing instrument for the project initiator to get to know its buyers and the market.

### **3. Design and Planning of a Crowdfunding Campaign**

When designing and planning a crowdfunding campaign it is necessary to take into account that the competition for raising funds through crowdfunding is extremely strong. Therefore, project initiators are often guided by the idea that “...*crowdfunding is a way to contribute to a cause in*

---

<sup>5</sup><http://croinvest.eu/trenutni-izazovi-i-buducnost-crowdfundinga/> (accessed on 6 May 2016)



*which participants believe, and typically people with the highest levels of identification are the first ones to invest.*" (Ordaninet al, 2011).

Although designing and planning a campaign seems like a simple task, it is actually a very complicated procedure since an original campaign should be made which would distinguish among others, attract interest of potential investors, make them feel important and encourage them to invest.

Project initiators approach the planning of their crowdfunding campaigns with great attention. They want to make sure their projects will raise the required funds. For a successful campaign, the key is to make a good first contact with investors and get them to invest into your project. The best way to start a campaign is to make a video in which you will present your project, attract interest of potential investors and direct them to your web site where they will get all other information on the project. First of all, it is very important to seek help from your family, friends and business partners to invest into the project and promote it on the social networks. This will give the campaign a starting impulse and raise initial funds which could encourage other potential investors to invest.

According to Steinberg and DeMaria (2012) there are two ways how to present your project:

1. Using already existing crowdfunding platforms, such as:

*Kickstarter*– platform which encourages creative projects in the fields of technology, videogames, journalism, music and others. On Kickstarter investors cannot get a financial return for their invested funds, but the official thanks, final product, souvenir or similar consideration.

*IndieGogo*– platform which is open for all kinds of projects. Investors do not get a financial return, but a gift, souvenir and similar.

*Spacehive*– platform intended for community wellbeing (building parks, children's playgrounds, protection of the environment etc.). It does not offer material goods in return, but improvements of life conditions.

*RocketHub*– supports a wide range of projects, from videogames to philanthropy. For their investments, investors get the final product, thanks or souvenir.

2. Using your own web site

We use our own web site and the existing circle of acquaintances in order to create a unique campaign which offers a special project, and thus convince potential investors to invest into the project.

For a campaign to be successful, one must take care of its expenses and how to keep the project on a level that would keep interest of the potential investors and at the same time ensure the required inflow of funds in the set period. Specifics of this way of raising funds is that for each project initiators must define in advance the funds required to realize the project. Projects are also time limited usually to 30 or 60 days. The whole process is transparent since all payments are public, so that it is known exactly how much funds is raised and how many people supported the project.<sup>6</sup>

---

<sup>6</sup><http://www.stopostopoduzetnik.hr/intervju/hrvoje-hafner-sve-tajne-crowdfundinga/>(accessed on 14 April 2016)

Successful running of a crowdfunding campaign depends on both skills and education of the project initiator and support offered by the crowdfunding platform and other participants. According to the European Commission (2014), “*Project owners may need education about the use of crowdfunding, about its potential risks, and potentially also about planning or project management.*” For this purpose, crowdfunding academies are founded, whose goal is through education, support and promotion to help project initiators in preparing and carrying out successful campaigns.

#### 4. Crowdfunding in Croatia

Crowdfunding, as a new investment trend, is gaining popularity exponentially in Croatia. According to a research of Crowdfunding.hr, in 2014 there were 45 Croatian projects that requested start-up capital through platforms for group donations, rewarding, lending and investing. In this way, 2.76 million kuna of start-up capital were raised, and 14 projects accomplished their goal. About 10 million kuna have been raised for projects in this way in Croatia to date. How much this way of financing projects is getting popular, illustrates the fact that only 64 Croatian projects tried to raise money through crowdfunding from 2011 to 2013. Financial goal was met by only five of them, and the total amount they collected in three years was one million kuna.

There is a whole series of Croatian projects which have been realized thanks to financial help of numerous “investors” from abroad. One such example is the campaign to build an animal shelter initiated by an association named *Šapica* (A small paw), and which requested seven thousand dollars in one month to build an animal shelter in the County of Zagreb, more precisely for the city of Zaprešić and 7 surrounding municipalities<sup>7</sup>. At the end of the campaign they managed to raise more than 15 thousand dollars and to attract attention to the problem of financing building and maintaining of such shelters.<sup>8</sup> Humanitarian crowdfunding campaign for *Šapica* association has raised 50% of the required amount in just two days. Namely, to finish the first phase of the animal shelter they needed 50,000 kuna which *Šapica* association has managed to raise through Indiegogo crowdfunding campaign, in cooperation with volunteers from ZIP – *Zagrebački inkubator poduzetništva* (Entrepreneurial incubator Zagreb).

The most successful crowdfunding campaign in 2014 was the one for first Croatian seed fund “ZIP Accelerator 1”, organized by *Zagrebački inkubator poduzetništva*. Through the British crowdfunding platform Seedrs, ZIP has managed to raise about 660 thousand kuna from 180 investors.

The second most successful Croatian crowdfunding campaign in that year was organized by a Croatian computer games production team Ironward. For their new game *The Red Solstice* the team has collected over 380 thousand kuna of start-up capital from 1504 donors on Kickstarter. The game was supported by Croteam with 20 thousand kuna, but also from other veterans of the industry. Monochrome games studio, the best small game publisher in the world, has donated 55 thousand kuna to the new product of the Croatian team Ironward.<sup>9</sup>

The largest number of Croatian projects financed through crowdfunding comes from the field of computer games (which is in accordance with the trend on Kickstarter), but they also emerge

---

<sup>7</sup><http://www.crowdfunding.hr/udruga-sapica-crowdfunding-gom-gradi-skloniste-za-zivotinje-2802> (accessed on 6 May 2016)

<sup>8</sup><http://www.womeninadria.com/kako-provesti-uspjesnu-crowdfunding-kampanju/> (accessed on 6 May 2016)

<sup>9</sup><http://www.crowdfunding.hr/infografika-crowdfunding-u-hrvatskoj-2014-2906> (accessed on 6 May 2016)

from the film industry domain. Moreover, the Crowdfunding Dox was held, a group financing of the film industry. The Crowdfunding Dox gathered domestic film workers who debated on group financing of the film industry in the world and in Croatia.<sup>10</sup> Furthermore, the project *RodanaPlitvicama* (Stork at Plitvice) – a crowdfunding struggle for the rights of pregnant women<sup>11</sup> had a goal of collecting 2000 dollars to cover the costs of ten activists attending the symposium at Plitvice. The symposium was about challenging the women's rights to decide on their body when pregnant and in labour, and challenging the right to terminate the pregnancy on demand.

The number of Croatian citizens who supported crowdfunding projects has also increased -6636 people donated money in that way in 2014. The most active was the co-founder of Croatian start-up WhoAPI, Edi Budimilić, who is among the top ten most successful Croatian start-ups in attracting investments with 1.5 million kuna of money raised. He supported 24 projects on Kickstarter and five on Indiegogo.

In order to popularize this way of financing projects in Croatia, the Crowdfunding Academy was founded.

### Crowdfunding Academy<sup>12</sup>

United Nations Development Program (UNDP) in Croatia and the social enterprise Brodotoo organize the Crowdfunding Academy since 2015 for associations, cooperatives, municipalities and cities, start-up companies, entrepreneurs, artisans and all other citizens, providing them free education on crowdfunding, with the goal that as many projects as possible achieve their given goals. Teams, with support from the mentors and crowdfunding experts, develop their projects and prepare to run their own campaigns. Teams who successfully finish the Crowdfunding Academy program are provided with support at joint campaign launch on Indiegogo platform.

Crowdfunding Academy is supported by *Zagrebačk iinkubator poduzetništva* (ZIP), CRANE (Croatian Business Angels Network), Development Agency Zagreb, Technology Park Zagreb, Croatian Independent Software Exporters (CISEx), H2GF (How to get funded), *Zadruga za etično financiranje*– ZEF (Ethical Financing Cooperative), *Zelena energetska zadruga*- ZEZ (Green Energy Cooperative), OMBOTICS, Hardware Wednesday and *Akademija za politički razvoj*– APR (Political Development Academy).

The National crowdfunding platform in Croatia is Croinvest.eu. It is a crowdfunding platform for financing of entrepreneurial, infrastructural and socially beneficial projects with special emphasis on projects that apply for EU funds.

The aforementioned platform combines five financing models adapted to Croatian legislature so it is possible to<sup>13</sup>:

- donate money;
- make a payment in return for an item or service with exactly set waiting period;
- lend money in the form of non-interest or interest investment loan for a specific period of time;
- invest money in exchange for a share in limited liability company or cooperative;

<sup>10</sup> <http://www.crowdfunding.hr/odrzan-crowdfunding-dox-3455>(accessed on 6 May 2016)

<sup>11</sup> <http://www.crowdfunding.hr/roda-na-plitvicama-3407>(accessed on 6 May 2016)

<sup>12</sup> <http://www.netokracija.com/crowdfunding-academy-grupno-financiranje-102136>(accessed on 6 May 2016)

<sup>13</sup> <http://croinvest.eu/trenutni-izazovi-i-buducnost-crowdfundinga/>(accessed on 6 May 2016)

- invest money in exchange for a share in profit by signing a contract on secret company. Platform is free to use, and it is intended to all domestic natural persons and legal entities, and all foreign citizens who wish to invest in Croatia.

## 5. Conclusion

While the global need for crowdfunding rapidly rises, in Croatia it is at the beginning. Considering the current economic situation in Croatia, especially in the eastern Croatia, and the fact that it is very difficult to get funds, as an alternative way of financing crowdfunding can surely greatly facilitate and help project initiators to secure its realization.

Crowdfunding presents a new opportunity in uncertain macroeconomic surrounding. The fact that such financing is done over the internet makes a project accessible to thousands of investors, and with promotion on social networks financing gets global proportions. Due to its psychological component – investors' opinions –that the crowdfunding includes, it has a growing role in modern marketing business.

Examples from Croatian practice have shown how to use, through crowdfunding, the power of global information and accessibility of the whole world to successfully realize projects in eastern part of Croatia, and in whole Croatia as well.

## REFERENCES:

Agrawal A., Catalini C., Goldfarb A. (2013): *Some Simple Economics of Crowdfunding*, NBER Chapters, in: *Innovation Policy and the Economy*, National Bureau of Economic Research, Volume 14, pp. 63-97;

Ordanini, A., Miceli, L., Pizzetti, M., Parasuraman, A. (2011): *Crowdfunding: Transforming Customers into Investors through Innovative Service Platforms*, Journal of Service Management, Vol. 22 Iss: 4, pp. 443-470;

Ordanini, A. (2009): *Crowd Funding: Customers as Investors*, The Wall Street Journal, 23 March, p. 53.

Steinberg, S., DeMaria, R. (2012): *The Crowdfunding Bible, How to Raise Money for any Startup, Video Game, or Project*  
<http://www.crowdfundingguides.com/The%20Crowdfunding%20Bible.pdf> (accessed on 15 April 2016)

Wardrop, R., Rosenberg, R., Zhang, B., Ziegler, T., Squire, R., Burton, J., Arenas Hernandez, E., Garvey, K. (2016): *Breaking New Ground, The Americas Alternative Finance Benchmarking Report*, pp. 18-77

European Commission (2014): *Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions, Unleashing the potential of Crowdfunding in the European Union*  
[http://ec.europa.eu/internal\\_market/finances/docs/crowdfunding/140327-communication\\_en.pdf](http://ec.europa.eu/internal_market/finances/docs/crowdfunding/140327-communication_en.pdf) (accessed on 13 April 2016)

<https://www.fundable.com/learn/resources/guides/crowdfunding-guide/crowdfunding-history> (accessed on 20 April 2016)

<http://www.poslovní.hr/startup-i-vase-price/utrostrucio-se-broj-hrvatskih-projekata-koji-su-uspjeli-preko-crowdfundinga-287613>(accessed on 14 April 2016)

<http://www.crowdfunding.hr/crowdfunding-pocetnica-1773>(accessed on 13 April 2016)

<http://www.crowdfundingacademy.eu/>(accessed on 13 April 2016)

<http://www.netokracija.com/crowdfunding-academy-grupno-financiranje-102136>(accessed on 13 April 2016)

<http://www.tportal.hr/scitech/teho/331769/Crowdfunding-je-buducnost-hrvatskih-kreativaca-i-inovatora.html>(accessed on 13 April 2016)

<https://www.jbs.cam.ac.uk/faculty-research/centres/alternative-finance/> (accessed on 13 April 2016)

<http://www.womeninadria.com/kako-provesti-uspjesnu-crowdfunding-kampanju/>(accessed on 14 April 2016)

<http://www.crowdfunding.hr/udruga-sapica-crowdfundingom-gradi-skloniste-za-zivotinje-2802>(accessed on 15 April 2016)

<http://www.privredni.hr/vijesti/24-analize/664-crowdfunding-ili-grupno-financiranje>(accessed on 13 April 2016)

<http://studentski.hr/studenti/financije/sto-je-crowdfunding-i-kako-funkcionira/>(accessed on 14 April 2016)

<http://www.crowdfunding.hr/infografika-crowdfunding-u-hrvatskoj-2014-2906> (accessed on 14 April 2016)

<http://www.telegram.hr/biznis-tech/postoji-i-stranica-na-kojoj-putem-crowdfundinga-mozete-financirati-svoje-putovanje/> (accessed on 15 April 2016)

<http://www.poslovní.hr/startup-i-vase-price/crowdfundingom-hrvatski-projekti-dosli-do-10-mil-kn-301867> (accessed on 15 April 2016)

<https://www.bizit.hr/crowdfunding-brza-lova-uz-minimalni-rizik/> (accessed on 19 April 2016)

<http://www.stopostopoduzetnik.hr/intervju/hrvoje-hafner-sve-tajne-crowdfundinga/> (accessed on 14 April 2016)

<https://en.wikipedia.org/wiki/Crowdfunding> (accessed on 13 April 2016)

**PhD Bojana Olgic Drazenovic, Assistant Professor**

Faculty of Economics, University of Rijeka  
Ivana Filipovića 4, 51000 Rijeka, Croatia  
Phone: 00385 51 355 128 Fax: 00385 51 212 268  
E-mail address: bolgic@inet.hr

**Ph.D. Dario Maradin, Postdoctoral Research Assistant**

Faculty of Economics, University of Rijeka  
Ivana Filipovića 4, 51000 Rijeka, Croatia  
Phone: 00 385 51 355 184 Fax: 00 385 51 212 268  
E-mail address: dmaradin@efri.hr

**PhD Vesna Buterin, Postdoctoral Research Assistant**

Faculty of Economics, University of Rijeka  
Ivana Filipovića 4, 51000 Rijeka, Croatia  
Phone: 00385 51 355 122 Fax: 00385 51 212 268  
E-mail address: vesna.buterin@efri.hr

## **TAX FRAMEWORK OF THE CROATIAN FINANCIAL SYSTEM<sup>1</sup>**

### **POREZNI OKVIR HRVATSKOG FINANCIJSKOG SUSTAVA**

#### ***ABSTRACT***

*The responsibility of the financial sector for the global financial crisis spurred the interest of the public to assess the 'fair and substantial contribution' of the financial industry that would level the costs associated with government interventions. In addition to various and comprehensive changes in the regulatory regime, most countries focused its efforts towards reforms of the tax systems.*

*Therefore, it seemed reasonable to investigate the existing tax treatment of different categories of capital income in Croatia, i.e. interest income on savings deposits and bonds, dividends and capital gains. These additional taxes have been introduced recently with the primary objective of growth of budget revenues as well as additional contributions to the stability of the financial system. However, the paper raises the question of the justification of this decision with respect to the relative underdevelopment of the domestic financial system, and particularly illiquid and shallow capital markets. For this reason, the authors will analyze the structure and determinants of Croatian financial institutions and financial markets, and the importance of financial services in the national economy.*

*The aim of this paper is to point out the importance of developing appropriate tax framework for all segments of the financial system in the Republic of Croatia. Authors will provide insight into the nature and key features of capital income taxes as well as the basic elements of the state taxes on financial institutions. Furthermore, in line with trends in European legislation, the introduction of tax on financial transactions (FTT) will also be taken into account.*

**Key words:** taxation, financial institutions, financial markets, capital income, Croatia

---

<sup>1</sup> This work has been supported in part by the Croatian Science Foundation under the project number IP-2013-11-8174 and by the University of Rijeka under a project number 13.02.1.2.02 .

## SAŽETAK

*Odgovornost financijskog sektora za globalnu financijsku krizu potaknula je interes javnosti za procjenu odgovarajućeg doprinosa financijske industrije koji bi nivelirao troškove povezane s vladinim intervencijama. Osim raznih i sveobuhvatnih promjena regulatornog režima, većina zemalja usmjerila je svoje napore ka porednim reformama.*

*Stoga se činilo opravdanim istražiti postojeći porezni tretman različitih dohodaka od kapitala u Hrvatskoj odnosno prihod od kamata na štedne depozite i obveznice, dividende i kapitalne dobitke. Navedeni porezi uvedeni su u novije vrijeme s primarnim ciljem rasta proračunskih prihoda, kao i doprinosa dodatnoj stabilnosti financijskog sustava. Međutim, u radu se postavlja pitanje opravdanosti ove odluke s obzirom na relativnu nerazvijenost domaćeg financijskog sustava, a posebno nelikvidnog i plitkog tržišta kapitala. Iz tog razloga autori će analizirati strukturu i determinante financijskih institucija i financijskih tržišta, kao i važnost financijskih usluga u nacionalnom gospodarstvu.*

*Cilj ovog rada je ukazati na važnost razvijanja odgovarajućeg poreznog okvira za sve segmente financijskog sustava u Republici Hrvatskoj. Autori će istražiti prirodu i bitne značajke oporezivanja dohotka od kapitala, kao i osnovne elemente državnih poreza na financijske institucije. Nadalje, u skladu s trendovima u europskom zakonodavstvu, sagledati će se i mogućnost uvođenja poreza na financijske transakcije (FTT).*

**Ključne riječi:** *Porezi, financijske institucije, financijska tržišta, prihod od kapitala, Hrvatska*

### 1. Introduction

Well developed and efficient financial system can offer great advantages to national economies. Despite the important contributions of financial sector, there is a growing concern that the sector suffers from structural problems, with the result being a misallocation of resources and undue risk imposed to the economy (Burman, 2016, 185). The financial market collapse of 2007 illustrated painfully how financial sector can impose significant costs on the broader economy. Many countries in Europe introduced financial sector levies immediately after the crisis.

The issue of taxation of financial institutions and financial transactions is a matter of high-importance. Taxation could supplement regulation of financial institutions because it can be focused on risks to the overall financial system rather than just on individual financial institutions (Keen, 2011, 2).

In 2014, when the consolidation of Croatian public finances was needed as was the settling of disputes over the amendments regarding the Croatian taxation system, a new feature was being introduced, namely, the capital income tax by means of the Income Tax Act. Until 2014 Croatia was one of the few countries where taxation of interests on savings and capital income from financial assets did not exist. Although the foundations of the present taxation system were laid more than two decades ago, the stance pursued by the legislator has been mainly oriented toward consumption taxation, rather than the taxation of savings and investments. In time, the tax system has grown in complexity, becoming more centralized and burdened by a variety of tax reliefs and tax exemptions. At the end of the global financial crisis there was the need for rethinking the fiscal system, a system which did not focus on assets, interests and dividends taxation. The economic downturn and the failure to fill-in the state budget have confirmed the general conviction that a wider consumption taxation, rather than taxing savings and investments, would have a favorable impact on economic development. In 2012 the first shift in the investment income taxation took place, which saw the introduction of both dividend and profit-sharing taxation. Such shift proved to

be less favorable for investment income than for other income types, thus highlighting the need for a fair partition of the fiscal burden.

In 2014, Croatia extended the tax base on investment income, following an approach present in the other EU Member States. Furthermore, information exchange concerning Croatian residents' interests abroad between Croatia and the rest of the Member States encouraged a more equitable taxation, but also an insight of the extent of foreign savings, which were likely to reduce tax evasion and tax avoidance (Cipek & Uljanić, 2015, p. 111). At the same time with such change, the taxation system was being harmonized to meet the European Commission's recommendations, in the way to shunt anomalies from the taxation systems of the EU Member States and to create a taxation system based on labour taxation.

These introductory remarks are followed by the in-depth analysis of the progress made by the Croatian financial system. The paper then addresses latest trends and the impact of changes in the financial system on financial organizations and services. Prior to the conclusions, we examine whether it was justified the need for the introduction of the tax on financial transactions as a form of indirect taxation, recommended by the European Commission.

## **2. Financial system in the Republic of Croatia**

Croatian financial system is underdeveloped as compared with financial systems in developed market economies. Banks are the most important financial institutions, despite slower growth rates comparing to other financial intermediaries. Moreover, Croatian economy is still mostly financed by conventional bank loans or in larger amounts, syndicated loans. The non-deposit financial intermediaries comprises over a quarter of the domestic market due to rapidly growing pension funds, turbulent development of open-end investment funds and stable insurance market.

Banks face greater competition from other financial institutions with important remark about significant ownership relationship between banks or their parent companies with a majority of other financial institutions. The three largest banking groups dominate pension and investment funds market, infiltrate in the area of insurance market and capital market and thus creating a problem of formal or informal financial groups. This implies increased responsibility of regulatory and supervisory institutions and also the need for harmonization of legislative and revision of all regulations that should protect service users.

Concerning general common features of all financial institutions, it can be concluded that they are predominantly foreign-owned, highly concentrated and profitable. Capital market is underdeveloped and illiquid, especially after the global financial crises. One of the specific problems is low investor risk tolerance enhanced with the lack of tradition and culture of investment in capital market and saving via non-deposit financial intermediaries.

Global financial crises slowed down the process of rapid growth in the non-banking sector and reinvigorating of bank-based system. Trend alleviates the pension funds due to allocations momentum of mandatory monthly contribution of resources. All other financial institutions have been faced with increased investors caution and shattered confidence because of the recession and the ongoing financial crises. These negative influences were especially referred to the open-end funds, which reduced their importance in financial system by the highest extent. Hence, long-standing domination of the banks has been slightly threatened only in the years prior the financial crises which accent the necessity for further encouraging the development of long-term voluntary savings through non-bank institutional investors as shown in Table 1.



**Table 1** Financial Market Structure in Croatia in 2007 and 2013

Financial institution	Assets (in mill.of HRK)		% of total assets		Number of institutions	
	2007	2013	2007	2013	2007	2013
<b>Banks</b>	345.1	397.9	72.7	73.3	33	33
<b>Open-end investment funds</b>	30.1	13.2	6.3	2.4	100	108
<b>Closed-end investment funds</b>	3.7	1.4	0.8	0.3	9	4
<b>Insurance companies</b>	23.2	34.5	4.8	6.4	25	27
<b>Housing savings banks</b>	6.4	7.6	1.3	1.4	5	5
<b>Mandatory pension funds</b>	21	58.2	4.4	10.7	4	4
<b>Voluntary pension funds</b>	0.8	2.7	0.2	0.5	18	22
<b>Savings and loan associations</b>	1.3	-	0.3	-	104	-
<b>Credit unions<sup>1</sup></b>	-	-	-	-	-	4
<b>Leasing companies</b>	30.3	19.7	6.4	3.6	25	23
<b>Factoring companies</b>	4.2	7.9	0.9	1.5	12	14
<b>Total</b>	<b>466.1</b>	<b>543.1</b>	<b>100.0</b>	<b>100.00</b>	<b>335</b>	<b>244</b>

Notes: 1 – estimated assets < 0,1 bill. kn

Source: author's calculation ([www.hanfa.hr](http://www.hanfa.hr); [www.hnb.hr](http://www.hnb.hr))

The structure of financial markets can be seen from Table 2, presenting the relative relevance of different types of financial instruments. It can be seen that the bank loans are prevalent, however not to the extent in which the banks' assets dominate the total assets of the financial system. The reason for that is that the banks in their equity portfolios also have large portfolios of shares and bonds.

**Table 2** Financial Market Structure (in millions of HRK)

Financing in the Republic of Croatia		Amount			% of total amount		
		2002	2009	2015	2002	2009	2015
<b>Bank loans (cons.)</b>		92,292.9.1	252,428.3	253,132.3	71	60	55
<b>Market capitalization</b>	<b>Shares</b>	28,325.6	135,368.2	128,137.1	22	32	28
	<b>Bonds</b>	8,996.4	36,255.8	78,993.8	7	9	17
	<b>Structured products</b>	-	-	1,724.2	-	-	-
<b>Total</b>		<b>129,614.9</b>	<b>424,052.3</b>	<b>460,263.2</b>	<b>100</b>	<b>100</b>	<b>100</b>

Source: [www.cnb.hr](http://www.cnb.hr), [www.zse.hr](http://www.zse.hr)

Although the Croatian stock market has existed for more than twenty years and has developed a solid infrastructure as well as modern legal framework, the very low liquidity still places it in the emerging market category. By the 2007, Croatian companies, financial institutions and government were increasingly financed by issuing securities which resulted with the improvement of institutional investor's development and strong growth of domestic capital market. However, almost decade later one can tell that activities in domestic capital market are significantly reduced and in addition, traditional banking financing become even more significant. Although pension system reform created a great demand for shares and debt securities, the ongoing problem is lack of high quality financial instruments and their low liquidity. One of the possibilities for improving the domestic capital market in the near future is in strategic alliances with exchanges in the region<sup>2</sup> (Olgic Drazenovic, Prohaska, Suljic, 2014, 213).

<sup>2</sup> Together with Bulgarian and Macedonian stock exchanges, Zagreb Stock Exchange(ZSE) has established the SEE LINK company in 2104 with the objective of creating a regional infrastructure for trading securities listed on those three markets and the system is about to be operational in the first quarter of 2016. At the end of 2015 ZSE acquired the Ljubljana Stock Exchange by taking over 100% of its shares from the CEE Stock Exchange Group (ZSE).

### **3. The taxation on financial institutions, markets and services in Croatia**

The Croatian tax system is compatible with those of EU member countries, and is based around a set of direct and indirect taxes. The current Croatian tax system is a hybrid system, where both the elements of income-based and consumption-based taxation concept are present and where the domination of the particular concept depends mostly on the current ruling party (Šimović, Blažić, Štambuk 2014, 408).

#### **3.1. Corporate taxation**

In Croatia corporate financial taxpayers (financial institutions) are subject to a national profits tax (20%), social security contributions, value added tax, excise taxes and county and municipal/city surtaxes as local self-governing units' revenues.

Financial institutions in the Republic of Croatia are liable to corporate income tax at a rate of 20%. The tax base is the accounting gain which increases or decreases according to the Law on Profit Tax and regulations are established by various exemptions and incentives.

Although these state and other taxes are by sufficiency and importance for tax authorities and tax payers more prominent than others, considering the development of the financial system it is of major importance to analyze the taxation of capital income which will be further explained below.

#### **3.2. Tax on capital income**

Personal income tax is the centerpiece of the modern tax systems, and not only because of its extremely high financial yields, but also because of the extensive capability to be used as a suitable instrument for the realization of some non-fiscal objectives of taxation (Jelčić, Jelčić, 1998, 173).

The amendments to the Income Tax Act (Official Gazette 143/14) passed in November 2014, concerned a mini tax reform in the field of income taxation from interest on savings deposits, dividends and capital gains. Most of the provisions came into force in early 2015, while the taxation of capital gains was announced to start of one year later, from January 2016.

Capital income is, according to the Law on Personal Income Tax (Official Gazette 143/14), considered as receipts from interest, seizure of property and the use of services at the expense of profit for a specific period, capital gains and profit shares generated through the assignment or the optional purchase of one's own shares, which have been accrued in the tax period. The taxpayer is a natural person who derives income.

##### **3.2.1. Taxation of interest**

In 2015 certain measures associated with the taxation of interest on domestic and foreign deposits of natural persons in the banking institutions came into effect. Interest on savings paid out after 1 January 2015 are subject to taxation at the tax rate of 12% plus city surtax. Tax liability will be withheld at the moment of payment of interest and considered as final. In accordance with the provisions of the Capital Income Tax Act (Official Gazette 136/15) all receipts from interest rates are taxable unless they exceed the 0,5% per annum paid out to natural persons. Tax prepayments on capital income are calculated, withheld and paid by the payer of interest as withholding tax, without personal tax allowance.

Taxable interests are considered to be receipts of claims of every kind, and in particular:

- receipts from interest on domestic and foreign currency savings (current account savings, term or annuity savings, including the yield, reward, premium and any other compensation earned over the amount of invested resources)
- receipts from interest on securities
- receipts from interest on loans
- receipts based on revenue-sharing investment fund in the form of interest (if they are not taxed share of profit on the basis of profit-sharing or income of the investment fund).

The Law prescribes certain exemptions from taxation of interest, such as interest on arrears, charged interest on court rulings, current and foreign exchange account interest if it does not exceed the lowest interest rate on savings deposits and does not exceed 0,5% per year, interest on bonds, receipts based on assets on life insurance with a savings component and return on voluntary pension contributions.

### 3.2.2. Taxation of dividends

Dividends and share in profit are subject to tax in Croatia. They have to be paid by the tax rate of 12%, after deduction. Tax prepayments on capital income are calculated, withheld and paid by the payer of interest as withholding tax, without personal tax allowance. Non-taxable part of dividends and share in profit on income up to HRK 12,000 per year is no longer valid. Taxpayers were able to make use of such tax relief through the annual tax return in 2013 and 2014.

Exemptions from taxation are prescribed for dividend payments from the program ESOP (Employee Stock Ownership Plan). Reinvested earnings and the use of income from capital to increase the company's share capital are also deducted from taxation. This applies under the condition that there are no subsequent reductions of the share capital nor payments to company members, nor reductions in the number of jobs in the following two years.

Dividends paid to non-residents are subject to a 12% withholding tax. This does not apply if the rate is reduced or exempt due to an existing tax treaty or the dividends qualify for an exemption under the EU parent-subsidiary directive.

### 3.2.3. Taxation of capital gains

One of the novelties in the Law on Personal Income Tax is the introduction of a special tax treatment of capital gains upon sale and disposal of financial instruments and structured products acquired from 01 January 2016 and alienated within three years.

Investment income arising from capital gains is defined as the difference between the agreed sale price (receipts determined in accordance with the market value of financial assets that are alienated) and the purchase of financial assets that are alienated. Under the alienation of financial assets the law does not specify only sales but also exchange, donation and other transmissions, and disposal of property and property rights. The taxpayer is the owner of a financial asset under the obligation to calculate, withhold and pay the tax on capital gains at the rate of 12% without any personal allowance. For a natural person as a tax payer, the obligation can be performed by the management company or by the person who manages the financial assets.

Under the law, capital gains taxation is applied to instruments that are usually traded on the Zagreb Stock Exchange, such as shares and bonds (transferable securities), certificates and structured products. In addition, the tax is calculated on the profit deriving from receipts from alienation of

shares in the capital of companies, shares in investment undertakings, money market instruments (treasury bills and commercial papers) and derivatives.

The law provides certain exceptions, in particular for:

- The transfer of shares between pension funds,
- The replacement of securities with the same kind of securities of the same issuer,
- The distribution of shares of the same issuer if there is no change in the share capital and cash flow,
- The replacement of shares among investment funds managed by the same management company, with the fulfillment of the condition that the sequence of financial assets acquisition is secured,
- The redemption of shares in the Fund of the Croatian Homeland War Veterans and their families.

In addition, the following types of income are not taxed:

- The alienation between the spouses and relatives in first line and other close family members and between divorced spouses when the alienation was in close conjunction with divorce,
- Alienation in close connection with the inheritance of financial assets,
- Alienation after three years from the purchase of financial assets.

It is one of the most complex type of income taxation in Croatia, which has raised numerous concerns and was the subject of disputes among experts and market participants. These remarks are reflected in the Amendments to the Personal Income Tax Act related to capital gains (Official Gazette 136/15). Such amendments have changed the deadline for the payment of the capital gains tax. Before the Amendments were enacted, taxpayers were required to calculate and pay tax within 8 days from the income receipt date, or on income receipt date in the case that the tax calculation and payment obligation were taken over by the security fund manager. The Amendments change the filing deadline to a single date, which is 31 January of the current year for the previous tax year. In other words, capital gains tax will be paid on an annual basis, and the tax base will be the difference between capital gain and capital loss.

The main disadvantage of introducing a new fiscal burden is the lack of quality analysis and expertise concerning the impact it might have on the Croatian economy, especially on fragile and illiquid capital markets. This measure was adopted ad-hoc with the sole purpose of filling the state budget. This tax will discourage primarily small investors who have been a significant generator of domestic liquidity. Small investors probably will turn to other forms of investing capital due to higher costs. The investment activity will be largely slowed down owing to the economically inefficient calculation, where investors' earnings will shrink even more than the amount of tax they are required to pay and it will be difficult to take the decision about investing in securities.

#### **4. Reflections on the possibilities of introducing tax on financial transactions in Croatia**

Global economic and financial crisis, which was triggered by financial market failures, has prompted a public debate about the possible solutions to the fiscal burden of the financial sector of certain national economies on the single European market. With the aim of stabilizing the EU financial system and ensuring a fair contribution of the financial sector to public finances, in 2011 the European Commission proposed a harmonized financial transactions tax (FTT) for the EU.<sup>3</sup>

---

<sup>3</sup> Because of not reaching an agreement, a new proposal was tabled in February 2013 (EC, 2013) but again implementation was repeatedly postponed. Meanwhile, some EU states have maintained their existing taxes while others including France and Italy, independently introduced new ones. In January 2017, 10 EU states will adopt a FTT. The parties include Austria, Belgium, France, Germany, Italy, Portugal, Slovakia, Slovenia, and Spain. Some observers believe delays in implementation are likely (Burman et. al., 2016, 178).

European FTT is based on a so called “AAA approach” (*all institutions, all markets, all instruments*). It refers to a broad fiscal framework, proposing a unique tax burden on trading of all financial instruments of all financial institutions within the EU, which takes place on organized financial markets (exchange and OTC markets). Tax rates for basic financial instruments are 0.1% of the value of buying and selling transaction (except the primary market for shares and bonds), whereas the tax rates of 0.01% of nominal contract value are defined for derivative products.

FTT is aimed at financial transactions made by financial institutions on their own behalf or on behalf of their clients. Financial institutions are all entities that make more than 50% of their annual turnover through financial transactions, namely: investment companies, regulated markets, credit institutions, insurance and reinsurance companies, collective investment companies, financial leasing companies, with the exception of transactions carried out by central securities depositories and central banks. This implies that the scope of FTT is primarily limited to financial industry, while it excludes the impact on daily citizens’ and small and medium enterprises transactions.

The tax combines a residence principle with an issuance principle, according to which all transactions by financial institutions based in the EU as well as by those based outside the EU are to be taxed as long as the transaction takes place in the FTT region.

The proposal of the single European FTT leaves out of its scope traditional bank lending and deposit taking as well as currency trading. Taxing gross transactions on secondary financial markets at relatively low rates would prevent disruptions, ensure system stability and generate substantial public revenues.

Preliminary analysis of the possibilities of FTT in Croatia, according to this proposal, leads to a conclusion that Croatian capital market is not developed enough to generate substantial tax revenues. On the other hand, non-taxation of financial transactions in Croatia would impose a fiscal burden for domestic financial institutions when transactions take place in Member States of the FTT jurisdiction or when trading in financial instruments issued in these countries. Such a provision would cause an outflow of tax revenue outside Croatian borders (Milevoj, 2012, 34).

## **5. Conclusion**

The latest amendments of the personal income tax in the Republic of Croatia have further extended the tax base for capital gains, which regulates the taxation of dividends, interests and capital taxation. Hence, from the beginning of 2015 interests were subject to taxation like revenue from any receipts, and, after one year deferral, also capital gains were liable to taxation in the form of personal investment income during the alienation of financial instruments and structured products acquired after 1<sup>st</sup> January 2016.

The impact of the new fiscal framework shall be visible in the future. Yet, taxation of trade earnings from capital trade are likely to have a negative impact on small investors due to the unfavorable calculation, income tax return and tax payment. Apart from individual investors, who are the driving force providing liquidity on the domestic market, the negative effects may also discourage foreign investment, since the afore mentioned amendments destabilize the fiscal system and hamper long-term planning. The impression is that the damage on the financial markets caused by the introduction of these new measures shall exceed by far the benefits to the state budget.

In fact, the baseline for an effective fiscal system are durability, foreseeability and simplicity. On the one hand, uncertain fiscal planning shall certainly have a negative impact on investors on financial markets, but, on the other, the taxation of financial transactions imposed by financial

organizations may contribute to a more equal distribution of the burden generated by the financial crisis.

## REFERENCES

Burman, L. E. et. al. (2016): *Financial Transaction Taxes in Theory and Practice*, National Tax Journal, Vol. 69, No. 1, pp.171-214

Cipek, K., Uljanić, I. (2015): *Porezni tretman dividenda, kamata i kapitalnih dobitaka*, Porezni vjesnik, Vol. 24, No. 9, pp. 92-111

European Commission, (2013): *Impact assessment: Proposal for a Council Directive Implementing Enhanced Cooperation in the Area of Financial Transaction Tax, Analysis of Policy, Options and Impacts*, WD28, EC, [http://ec.europa.eu/taxation\\_customs/resources/documents/taxation/swd\\_2013\\_28\\_en.pdf](http://ec.europa.eu/taxation_customs/resources/documents/taxation/swd_2013_28_en.pdf), (accessed 12 January 2016)

Jelčić, B., Jelčić, B. (1998): *Porezni sustav i porezna politika*, Informator, Zagreb

Keen, M. (2011): *Rethinking the Taxation of the Financial Sector*, CESifo Economic Studies, Vol. 57, No. 1, pp. 1–24.

Milevoj, M., (2013): *Zajednički porez na financijske transakcije u Europskoj uniji: što je na raspolaganju Republici Hrvatskoj?*, Porezni vjesnik, Vol. 22, No. 10, pp. 29-36

Olgić Draženović, B., Prohaska, Z., Suljić, S. (2014): *Financial non-deposit intermediation institutions in the Republic of Croatia*, in Krtalić, S. and Drejerska, N., ed.: *Economic Policy Today: Political Rhetoric or a True Reform*, Pula, pp. 209-233

Šimović, H., Blažić, H., Štambuk, A. (2014): *Perspectives of tax reforms in Croatia: expert opinion survey*, Financial Theory & Practice, Vol. 38, No. 4, pp. 405-439

**Capital Income Tax Act**, Official Gazette 136/15

**Regulations on Amendments to the Ordinance on Corporate Income Tax**, Official Gazette 157/14

**Hrvoje Perčević, PhD.**

University of Zagreb  
Faculty of Economics and Business  
J. F. Kennedy 6, 10 000 Zagreb  
Phone: 01 238-3184  
E-mail: hpercevic@efzg.hr

**Mirjana Hladika, PhD.**

University of Zagreb  
Faculty of Economics and Business  
J. F. Kennedy 6, 10 000 Zagreb  
Phone: 01 238-3184  
E-mail: mhladika@efzg.hr

**Marina Mićin, Master of Economics**

University of Zagreb  
Faculty of Economics and Business  
J. F. Kennedy 6, 10 000 Zagreb  
Phone: 01 238-3184  
E-mail: mmicin@efzg.hr

**THE INTERDEPENDENCE BETWEEN MARKET SHARE PRICE AND EPS  
OF CLOSED-ENDED INVESTMENT FUNDS IN CROATIA****MEĐUOVISNOST TRŽIŠNE CIJENE DIONICE I ZARADA PO DIONICI  
ZATVORENIH INVESTICIJSKIH FONDOVA U REPUBLICI HRVATSKOJ****ABSTRACT**

*Closed-ended investment funds are important institutional investors in the developed capital markets, while their significance is smaller in the transition countries where trade in the capital markets is not that intense. At the moment, in Croatia there are three closed-ended investment funds on the Zagreb Stock Exchange. For them, in the period of 5 years (from the period 2010-2014) is observed a correlation between the two variables: earnings per share and the market share price. The assumption is that the market share price is positively correlated with the business results achieved by the company, because generally movement of the market share price is accompanied by the profitability of the company. That is because the investors while making investment decision about buying shares are observing the business results of a company as well as potential earnings per share (EPS). Therefore, there is the assumption that there is a positive correlation between earnings per share, which is one of the indicators of investment companies based on the business performance of the company and the market share price. Earnings per share is one of the most important indicators for the investors on the capital market, whose methodology for calculating is regulated according to International Accounting Standard 33 Earnings per share. The aim is to prove evidence that there is a positive correlation between earnings per share and the market share price for each of the three closed-ended investment funds in the period observed. In order to achieve the aim of the paper, secondary data obtained from the Zagreb Stock Exchange d.d. were used. Those data were analysed using descriptive and inferential statistics methods. Results of the research conducted showed that there is a positive correlation between earnings per share and the market share price in closed-ended investment funds in the period of 2010-2014 in Croatia.*

**Key words:** market share price, earnings per share (EPS), International Accounting Standard 33, closed-ended investment funds, Croatia

## SAŽETAK

Zatvoreni investicijski fondovi predstavljaju značajne institucionalne investitore na razvijenim tržištima kapitala, dok je njihov značaj manji u tranzicijskim zemljama gdje promet na tržištima kapitala nije u istoj mjeri intenzivan. U Republici Hrvatskoj trenutno djeluju tri zatvorena investicijska fonda koja kotiraju na Zagrebačkoj burzi d.d. Za ta tri fonda se u razdoblju od 5 godina (2010. – 2014. godine) promatra povezanost između dvije varijable: zarade po dionici i tržišne cijene dionice. Pretpostavka je da je tržišna cijena dionica pozitivno korelirana s poslovnim rezultatom društva s obzirom na to da u pravilu kretanje tržišne cijene dionice prati profitabilnost društva. Razlog tome je što investitori prilikom donošenja odluka o kupnji dionica promatraju poslovni rezultat društva kao i potencijalne zarade po dionici. Stoga je pretpostavka da postoji pozitivna korelacija između zarade po dionici koja je jedan od pokazatelja investiranja društva koji se temelji na poslovnom rezultatu društva i tržišne cijene dionice. Zarada po dionici je jedan od najznačajnijih indikatora za investitore na tržištu kapitala čija je metodologija izračuna uređena prema Međunarodnom računovodstvenom standardu 33 Zarade po dionici. Cilj rada je dokazati postojanje pozitivne povezanosti između zarade po dionici i tržišne cijene dionice za svaki od tri zatvorena investicijska fonda u promatranom razdoblju. U svrhu ostvarenja cilja rada, korišteni su sekundarni podaci preuzeti sa Zagrebačke burze d.d. koji su analizirani primjenom metoda deskriptivne i inferencijalne statistike. Rezultati provedenog istraživanja su pokazali da postoji pozitivna korelacija između zarade po dionici i tržišne cijene dionice u zatvorenim investicijskim fondovima u razdoblju od 2010. do 2014. godine u Republici Hrvatskoj.

**Ključne riječi:** tržišna cijena dionice, zarade po dionici, Međunarodni računovodstveni standard 33, zatvoreni investicijski fondovi, Hrvatska

## 1. Introduction

Investment funds are among the most important and the most significant institutional investors at modern globalized capital markets. They play the key role in collecting money from different individual investors and making investments in securities and other assets according to investment strategy in order to make returns for their investors. Investment funds are considered as driver and indicator of capital market development. In modern globalized and developed capital markets, investment funds have a significant impact on capital prices and can facilitate the economic development of certain regions and the whole world economy.

Investment funds are the most important financial institutions in capital markets of developed countries, while their significance is relatively small in transition (developing) countries where transaction on capital markets are not intensive. Investors in developed countries have a huge variety of investment possibilities due to the developed capital markets, while investors in transition countries are traditionally oriented on banking sector and investments in banking products. But, the appearance of investment funds, insurance companies and other financial institutions in transition countries makes small step toward more developed capital markets and, at the same time, enables more investment possibilities for investors in transition countries. Therefore, experiences and practices of developed countries regarding the capital markets are slowly transfer and implement in transition countries. Due to that, investment funds are becoming the more and more significant players in capital markets of transition countries.

Generally, there are two basic types of investment funds: open-ended and closed-ended investment funds. Both types of investment funds can have similar investment strategies and investment goals. The basic difference between open-ended and closed-ended investment fund is that closed-ended



investment fund is a legal entity organized as Joint Stock Company or limited company while open-ended investment fund is an assets managed by other company. Open-ended investment funds issue units in order to raise capital for investments in securities or other types of assets. Units of open-ended investment fund shall be redeemed at the request of investors. Closed-ended investment funds usually issue a fixed number of shares which are then offered at primary capital market in order to raise capital for investment in securities and other types of assets according to defined investment strategy and objectives. The shares of closed-ended investment funds are not redeemed at the request of investors (shareholders). Instead, investors in closed-ended investment fund (shareholders) can sell shares of closed-ended investment fund in capital market. Therefore, shares of closed-ended investment funds can be listed on regulated capital markets just like shares of any other publicly listed joint stock company.

Market price of closed-ended investment fund's share is usually determined on regulated capital market by supply and demand. When making investment decision, investors are observing business results of a company and, particularly, earnings per share as a criterion for deciding about making investment in shares. So, the purpose of this paper is to identify the interdependence between the market share price and earnings per share of closed-ended investment funds in Croatia from the period 2010-2014. The main hypothesis of this paper is following: there is a positive correlation between earnings per share and the market share price of closed-ended investment funds in Croatia. In order to test this hypothesis, methods of descriptive and inferential statistics are used.

## 2. Literature review

### 2.1. Accounting framework for calculation of earnings per share

The accounting information presented in the financial statements should be useful for making business decisions for all interested users (primary creditors and investors). Investors and creditors have always been interested in information about the possibility of return of the invested amount in the future, and what is the earnings potential in the future (Gulin, Perčević, 2013, 424). Information on earnings and projections of future earnings growth represent the fundamental interests of investors.

In the literature are known different indicators of investment. Some of the indicators of investment that are commonly used in reporting investors are: *earnings per share*, *price per share*, *dividends per share*, *dividend yield*, *price – earnings ratio* and *dividend payout ratio* (Hanson, Hamre, 1996, 577-581).

The goal of this paper is to investigate that there is a positive correlation between earnings per share and the market share price of closed-ended investment funds. Therefore, below is in more detail explained the significance and the calculation of earnings per share as one of the most important indicators of investment.

IAS 33 *Earnings per share* is applied in order to precisely determine and to enable the comparability of business success and earnings per share between different business entities and between different periods. The need and importance of prescribing the principles for determination and presentation of earnings per share is important because of different accounting policies that are applied by the various subjects in the measurement of economic categories. Because of different accounting policies that have a direct impact on the amount of achieved financial results (profit or loss), IAS 33 *Earnings per share* is primarily focused on the denominator for calculating earnings per share (IAS 33, item 1).

Each business entity needs to calculate basic earnings per share in order to determine how much profit or loss from operations is attributable to ordinary shareholders. This information is important to investors because it shows the measure of the share of each ordinary share in the business success of the entity during the reporting period. The value of this indicator of investment indicate investors in ordinary shares what earning brings them one ordinary share.

In its simplest form, earnings per share are calculated by dividing the financial result from operations with the number of ordinary shares. The equation for calculating earnings per share is (IAS 33, item 9, item 19):

$$\text{Earnings per share (EPS)} = \frac{\text{Financial result}}{\text{The number of ordinary shares}} \quad (1)$$

If the business entity has issued preference shares then the earnings per share mean how much of the net profit after deduction of dividends to preferred shareholders rest per ordinary share. The number of ordinary shares shall be the weighted average number of ordinary shares outstanding during the period. Taking the weighted average number of ordinary shares during the period in the calculation of earnings per share points to the possibility that the amount of shareholders during the period has been changed, that is possible if there was an issue of new shares or to purchase own shares.

## 2.2. The significance of earnings per share for investment decisions

There are many different factors that determine the market share price. Two of them which are the most important include the earnings per share and expected earnings per share growth (Bierman, Hass, 2009, 166). In order to conduct investment decisions, the investors are looking for the movement of business performance and the market share prices. Also, the investors are interested in earnings, dividends and net asset value for the purpose of decision making. Finally, the movement of market share price in relation to the business performance and earnings is a very important issue for the investors. By the analysis of the equity of the company, it is very important to verify whether the market stock price moves with the business performance.

In previous research, different researcher used some of indicators of company's values such as earnings per share, earnings, dividends and net asset values. Freeman (1987) analyzed the relationship between the accounting earnings and stock returns in small and large firms. Beaver, McAnally and Stinson (1997) found out that there exist the feedback relationship between the earnings and market stock prices. Chan, Karceski and Lakonishok (2003) evidenced a high correlation between the market share price and to earnings ratio and the consensus growth forecasts across U.S. firms for the period 1951-1997. Oh, Kim and Kim (2006) evidenced that market stock prices are cointegrated with earnings per share for companies at the Korean stock market. Chang, Chen, Su and Chang (2008) investigated that there exist the cointegration relationship between stock prices and EPS in the long-run. Furthermore, they found that for the companies with a high level of growth rate, EPS has less power in explaining the stock prices; while, for the companies with a low level of growth rate, EPS has a strong impact in stock prices.

## 2.3. Regulatory framework of investment funds in Croatia

In Croatia, just like in similar transition countries, banks are still the most important and dominant financial institution in capital markets. But, as the capital market is slowly developing, investment funds, insurance companies and other financial institutions are becoming the more and more important factor in Croatian capital market. According to the Croatian Financial Services Supervisory Agency (Croatian national regulator for the supervision of financial markets, financial services and supervised entities providing those services), there are currently 112 active investment funds in Croatia, among which four of them are closed-ended investment funds while the others are open-ended investment funds. Therefore, investment funds are becoming the more and more significant investment opportunity for investors on Croatian capital markets.

The foundation and activity of investment funds in Croatia is regulated by two basic laws: *Act on Open-Ended Investment Funds with Public Offering* and *Alternative Investment Funds*

*Act.* According to the existing regulatory framework of investment funds in Croatia, there are two basic types of investment funds and these are open-ended investment funds with public offering (UCITS) and alternative investment funds (AIF). Each investment fund has its own investment strategy and objectives. Open-ended investment funds with public offering raise capital through public offering of its units and invest in liquid financial assets and money market instruments. “Open-ended investment fund with public offering (UCITS) is established by a UCITS management company and is operating on the principle of risk-spreading. It invests collective assets of investors, raised through public offering of units in UCITS, in liquid financial assets in accordance with the provisions of the Act on Open-Ended Investment Funds with Public Offering, prospectus and the fund rules. Units of UCITS are redeemed out of its assets at the request of investors.” (HANFA, 2016). “Alternative investment fund is an investment fund established by a manager of alternative investment funds for the purpose of raising capital through a public or private offering and investing this capital in different types of assets in accordance with the provisions of the Alternative Investment Funds Act and a predefined AIF investment strategy and objective, but to the exclusive benefit of unit-holders in the AIF concerned.” (HANFA, 2016). Alternative investment funds can be organized either as open-ended or closed-ended investment funds. Closed-ended investment funds can be founded as a joint stock company or limited company (Alternative Investment Funds Act, 2013). If a closed-ended investment fund is founded as a joint stock company, its shares can be listed and traded on regulated capital market (in Croatia it is Zagreb Stock Exchange). According to the Croatian Financial Services Supervisory Agency, currently there are 84 open-ended investment funds (UCITS) and 28 alternative investment funds.

**Table 1** Types and number of investment funds in Croatia

Open-ended investment funds with public offering (UCITS)	Alternative investment funds (AIFs)			Total number of investment funds in Croatia
	Open-ended AIFs	Closed-ended AIFs	Closed-ended AIFs listed on Zagreb Stock Exchange	
84	24	4	3	112

Source: HANFA, available on <http://www.hanfa.hr/registar/23/aif?page=1> and <http://www.hanfa.hr/registar/22/>

As it can be seen in table 1, only 4 out of 112 investment funds in Croatia are closed-ended investment funds, while 108 are open-ended investment funds. In developed countries with developed capital markets (such as Canada and USA) open-ended investment funds are more developed than closed-ended, while in European countries both types of investment funds are equally developed (Gulin, 2001). Despite the type of investment fund, investment funds have similar investment strategy and objectives. There are three basic investment objectives of investment funds and these are: (1) investment funds with profit as a primary investment objective; (2) investment funds with growth of net asset value as a primary investment objective, and (3) investment funds with balanced objective that is combination of profit and growth (Gulin, 2001). Investment funds with profit as a primary objective usually invest capital in risk-free securities with relatively safe returns (dividends or interests). Investment funds with growth of net asset value as a primary objective invest in riskier securities which rate of return is higher than average rate of return. Investors in such investment funds expect that increase in net assets value of investment fund would result in the increase of its market price of share. Investment funds which prefer balanced objective invest in shares which bring relatively stable dividends and provide the stable growth of investment fund’s market price of share (Gulin, 2001).

Since open-ended investment funds with public offering (UCITS) invest capital in liquid financial assets and instruments of money market, Croatian Financial Services Supervisory Agency has issued an Ordinance on permitted investments and investment restrictions of UCIT’s fund. This Ordinance prevents UCIT’s from investment in risky financial instruments. Alternative investment funds define its investment strategy and objectives and according to that invest capital in financial

instruments, properties (real-estates) or other types of assets in order to make acceptable returns for its investors (shareholders). Croatian Financial Services Supervisory Agency has issues Ordinance on types of alternative investment funds which prescribe the types of alternative investment funds, permitted investment and investment restrictions of alternative investment funds and conditions which must be met for offering units or shares of alternative investment funds to small investors. According to the Ordinance on types of alternative investment funds there are following types of alternative investment funds in Croatia: (a) open-ended alternative investment fund with public offering, (b) closed-ended alternative investment fund with public offering, (c) closed-ended alternative investment fund with public offering for investment in properties (real estate), (d) basic alternative investment fund with private offering and (e) special types of alternative investment funds with private offering (private equity, venture capital, alternative investment fund with private offering for investment in real estate, fund of funds, hedge fund, specialized alternative investment fund, European venture capital, European fund of social entrepreneurship). Based on the type of alternative investment fund, alternative investment fund can invest capital in different kinds of financial instruments, real estates (properties), goods and other permitted types of assets. Since the closed-ended alternative investment funds are legal entities organizes as joint stock companies which shares can be traded on regulated market (Zagreb Stock Exchange), this paper aims to determine the relationship between closed-ended investment funds' earnings and market prices of their shares.

### 3. Research methodology and results

#### 3.1. Research methodology

The aim of this research is to prove that there is a positive statistical correlation between the earnings per share and the market share price for each of the three closed-ended investment funds in the period observed. In Croatia there are four closed-ended investment funds: *Kapitalni fond d.d. zatvoreni alternativni investicijski fond s privatnom ponudom*, *Proprius d.d. zatvoreni alternativni investicijski fond s javnom ponudom za ulaganje u nekretnine*, *Slavonski zatvoreni alternativni investicijski fond s javnom ponudom d.d.* and *Zatvoreni alternativni investicijski fond s javnom ponudom Breza d.d.* Of those four closed-ended investment funds, the last three of the mentioned, have shares included in the Zagreb Stock Exchange and it has been traded with them in the period observed (2010-2014). Those three closed-ended investment funds are included in the further research and are referred as: Breza d.d., Proprius d.d. and Slavonski d.d.

For the researched closed-ended funds, earnings per share (EPS) are calculated for each of the year by dividing the achieved financial result at the end of the year, and the number of shares listed. These information are available from the publicly available financial statements. Market share prices are available at the web page of the Zagreb Stock Exchange. As a market share price, it is used the last market share price in the year observed. The correlation between those variables is calculated using the Microsoft Excel program.

*Table 2 Market share prices, EPS and net asset per share*

<b>Breza d.d.</b>				
<b>Year</b>	<b>Market share price</b>	<b>Financial result</b>	<b>EPS</b>	<b>Net asset per share</b>
2010.	21,75	-3.789.593	-7,49	52,74
2011.	13,89	-5.961.537	-11,78	46,78
2012.	13	-20.273.705	-40,07	32,44
2013.	13	-12.438.760	-24,58	35,42

<b>Breza d.d.</b>				
<b>Year</b>	<b>Market share price</b>	<b>Financial result</b>	<b>EPS</b>	<b>Net asset per share</b>
2014.	22,99	1.714.760	3,39	39,54
<b>Proprius d.d.</b>				
<b>Year</b>	<b>Market share price</b>	<b>Financial result</b>	<b>EPS</b>	<b>Net asset per share</b>
2010.	22,74	-9.938.692	-4,96	75,60
2011.	19,01	-5.011.376	-2,50	73,66
2012.	21,88	-25.274.202	-12,62	67,94
2013.	11,02	-8.381.159	-4,18	63,93
2014.	12,52	-10.518.985	-5,25	59,32
<b>Slavonski d.d.</b>				
<b>Year</b>	<b>Market share price</b>	<b>Financial result</b>	<b>EPS</b>	<b>Net asset per share</b>
2010.	27,93	-33.411.446,84	-9,98	46,76
2011.	27,4	-4.971.047,71	-1,49	50,47
2012.	17,01	-46.141.941,50	-15,15	57,46
2013.	26,9	9.032.971,18	2,97	56,33
2014.	44,73	3.815.517,61	1,25	70,52

*Source: Authors*

Table 2 represents market share prices, financial result, calculated EPS and net asset per share which is available from the financial statements for each of the closed-ended investment funds included in research. Data are for the period 2010-2014. EPS is an indicator which is based on the financial result of a company. It is visibly that in those years when the closed-ended investment fund is not profitable, in other word, it has a loss, the EPS calculated is negative. Net asset per share is calculated taking into consideration net asset of a fund and number of issued shares. Net asset is a difference between the assets of a fund and its liabilities. The information about net asset per share is announced in publicly available financial statements. In this information it is also put in correlation with the market share price to see if it is better correlated with it than EPS, since EPS only takes in account financial result which is only part of the net asset.

### **3.2. Research results**

According to the information from the table 2, correlation between the market share price and EPS is calculated, such as correlation between the market share price and net asset per share. The correlation coefficient is Pearson correlation coefficient, which is calculated in Excel and presented in table 3. Correlation coefficient is calculated for each closed-ended investment fund for the period 2010-2014 to examine if the market share prices were going in the same direction as EPS.

**Table 3** Correlation between the market share prices with the EPS and Net asset per share

	Market share price and EPS	Market share price and Net asset per share
<i>Breza d.d.</i>	0,81876	0,51493
<i>Proprius d.d.</i>	-0,40172	0,81219
<i>Slavonski d.d.</i>	0,65581	0,63298

Source: Authors

When the Pearson correlation coefficient close to 1, it means that there is total positive correlation, while 0 means that there is no correlation between the variables observed. For the two of the three closed-ended investment funds observed (*Breza d.d.* and *Slavonski d.d.*), there is medium to strong positive correlation between the market share price and EPS. It means that financial result of a closed-ended investment fund has an influence on the market share price, because the market share prices of *Breza d.d.* and *Slavonski d.d.* were moving in the same direction such as their financial results. In other words, if the investors are expecting the rise in the financial result, the share prices on the market are rising, and if the investors are expecting the losses, the share prices on the market are falling. Since there is a positive correlation for the two out of three closed-ended investment funds which are on the Zagreb Stock Exchange, it can be concluded that there is a positive statistical correlation between the market share price and EPS.

The correlation between the market share price and the net asset per share is positive for all three closed-ended investment funds. The Pearson correlation coefficient varies from the 0,5 to 0,8, which means that the correlation between those two variables is from medium strongly positive to strongly positive. It can be concluded that the market share prices are accompanied by the net asset per share since the share prices are raising when the net asset is also rising, and the opposite.

When observing which correlation is stronger, between the market share price and the EPS or between the market share price and the net asset per share, for the two out of three investment funds (*Breza d.d.* and *Slavonski d.d.*), correlation is statistically stronger between the market share price and the EPS. It means that EPS has stronger influence on the market share price than the net asset per share.

#### 4. Conclusion

Investment funds are one of the most significant institutional investors in modern developed and globalized capital markets which can influence on capital prices and facilitate the economic development of certain regions and the whole world economy. Although their significance in transition countries is not as high as in developed countries, investment funds are becoming more and more significant players in capital markets of transition countries such as Croatia. The appearance of investment funds, insurance companies and other similar types of financial institutions enables large investment possibilities for investors in transition countries.

The basic objective of investment funds is to earn acceptable returns for their investors. Investors are considering investment fund's earnings while making investment decision. The more earnings of the fund are, it is more attractive for investors. Since closed-ended investment funds are legal entities organized usually as joint stock companies, their shares can be traded on capital markets at market prices. This paper aims to identify the relationship between earnings per share and market share price closed-ended investment funds in Croatia in the period from 2010 to 2014. There are four closed-ended investment funds in Croatia among which three of them are listed on Zagreb Stock Exchange in the observed period. For these three listed closed-ended investment funds is observed a correlation between the two variables: earnings per share and the market share price. Research results have indicated that there is a positive correlation for the two out of three closed-ended investment funds which are on the Zagreb Stock Exchange. So, it can be concluded that there

is a positive statistical correlation between the market share price and EPS. Besides, the correlation between the market share price and the net asset per share is positive for all three closed-ended investment funds, so it can be concluded that the market share prices are accompanied by the net asset per share since the market share prices are raising when the net asset is also rising, and the opposite.

## REFERENCES

Beaver, W.H., McNally, M.L., Stinson, C.H. (1997): *The Information Content of Earnings and Prices: A Simultaneous Equations Approach*, Journal of Accounting and Economics, Vol. 23, No. 1, pp. 53-81.

Bierman, H., Haas, J.E. (2009): *Explaining Earnings Per Share Growth*, Journal of Portfolio Management, Summer, 35, 4, pp. 166-169.

Chan, L.K.C., Karceski, J., Lakonishok, J. (2003): *The Level and Persistence of Growth Rates*, The Journal of Finance, Vol. LVIII, No. 2, April, pp. 643-684.

Chang, H.-L., Chen, Y.-S., Su, C.-W., Chang, Y.-W. (2008): *The Relationship between Stock Price and EPS: Evidence Based on Taiwan Panel Data*, Economics Bulletin, Vol. 3, No. 30, pp. 1-12.

Freeman, R.N. (1987): *The association between accounting earnings and security returns for large and small firms*, Journal of Accounting and Economics, Vol. 9, No. 2, pp. 195-228.

Gulin, D., Perčević, H. (2013): *Financijsko računovodstvo – izabrane teme*, Hrvatska zajednica računovođa i financijskih djelatnika, Zagreb

Gulin, D. (2001): *Računovodstveno praćenje aktivnosti investicijskih fondova s naglaskom na privatizacijskim investicijskim fondovima*, Zbornik radova Neum, Revicon, Sarajevo, pp. 127-154.

HANFA (2016), <http://www.hanfa.hr/registar/23/aif?page=1> and <http://www.hanfa.hr/registar/22/> (accessed 14 April 2016)

Hanson, E.I., Hamre, J.C. (1996): *Financial Accounting*, 8th edition, Forth Worth: Dryden Press

International Financial Reporting Standards, available at: [www.eur-lex.europa.eu](http://www.eur-lex.europa.eu) (accessed 2 April 2016)

Official Gazette (2015): *Pravilnik o dozvoljenim ulaganjima i ograničenjima ulaganja UCITS fonda* (engl. Ordinance on Permitted Investments and Investment Restrictions of UCIT's Fund), No. 26. and 37.

Official Gazette (2013): *Zakon o alternativnim investicijskim fondovima*, (engl. Alternative Investment Funds Act), No. 16

Official Gazette (2013): *Pravilnik o vrstama alternativnih investicijskih fondova* (engl. Ordinance on Types of Alternative Investment Funds), No. 105

Official Gazette (2013): *Zakon o otvorenim investicijskim fondovima s javnom ponudom* (engl. Act on Open-Ended Investment Funds with Public Offering), No. 16

Oh, K.-Y., Kim, B., Kim, H. (2006): *An empirical study of the relation between stock price and EPS in panel data: Korea case*, Applied Economics, Vol. 38, pp. 2361-2369.

**Amela Perić, PhD**

Faculty of Design, Architecture and Building, University of Technology Sydney

DAB, 702 Harris St, Ultimo NSW 2007, Australia

E-mail: amela\_peric@hotmail.com

Tel: +61 402 305 428, +61 2 9514 8037

**Nedžad Polić, PhD**

Faculty of Economics, Zenica University & Hifa Oil d.o.o.

Fakultetska 3, 72000 Zenica, Bosnia and Herzegovina

E-mail: nedžad.polic@ef.unze.ba

Tel: +387 32 656 562, +387 61 477 037

**Emira Kozarević, PhD**

Faculty of Economics, Tuzla University

Univerzitetska 8, 75000 Tuzla, Bosnia and Herzegovina

E-mail: emira.kozarevic@untz.ba

Tel: +387 35 320 840, +387 61 178 821

## **APPLICATION OF DATA SCIENCE IN FINANCIAL AND OTHER INDUSTRIES**

### **PRIMJENA ZNANOSTI PODATAKA U FINANCIJSKOM I DRUGIM SEKTORIMA**

#### **ABSTRACT**

*We are living in the era of the big data. The rapid development of scientific and data technology over the past decade has brought not only new and sophisticated analytical tools into financial and other industries, but also introduced the power of data science application in everyday strategic and operational management. Data analytics and science developments have been particularly valuable to financial organisations that heavily depend on financial information in their decision making processes. The article presents the research that focuses on the impact of the data and technology trends on decision making, particularly in finance industry. It covers an overview of the benefits associated with the decision analytics and the use of big data by financial organisations. The aim of the research is to highlight the areas of impact where the big data trends are creating disruptive changes to the way the finance industry traditionally operates. For example, we can see rapid changes to organisation structures, approach to competition and customer as well as the recognition of the importance of data analytics in strategic and tactical decision making. Investment in data analytics is no longer considered a luxury, but necessity, especially for the financial organisations in developing countries. Technology and data science are both forcing and enabling the financial industry to respond to transformative demands and adapt to rapidly changing market conditions in order to survive and thrive in highly competitive global environment. Financial companies operating in developing countries must develop strong understanding of data-related trends and impacts as well as opportunities. This knowledge should not only be utilised for survival efforts, but also seen as the opportunity to engage at global level through innovation, flexibility, and early adoption of data science benefits. The paper also recommends further studies in related areas, which would provide additional value and awareness to the organisations that are considering their participation in the global data and analytical trends.*

**Keywords:** big data, decision analytics, data science, financial industry, developing countries

**JEL Classification:** C55, C80, G21, G23



## SAŽETAK

Živimo u doba velike količine podataka, "Big Data". Rapidni razvoj znanosti i tehnologije podataka tijekom proteklog desetljeća doveo je ne samo do novih i sofisticiranih analitičkih alati u financijskoj i ostalim industrijama, već nas je upoznao i sa snagom primjene znanosti podataka u svakodnevnom strateškom i operativnom upravljanju. Razvoj znanosti i analize podataka pokazao se posebno vrijednim za financijske organizacije, čiji proces donošenja odluka uveliko ovisi o dostupnim podacima. Ovaj članak reprezentuje istraživanje koje se fokusira na pregled prednosti povezanih sa donošenjem odluka na bazi analitike, kao i korištenja "Big Data" od strane financijskih organizacija. Cilj istraživanja je da se rasvijetle područja gdje "Big Data" trendovi stvaraju disruptivne promjene u tradicionalnom načinu na koji funkcionira financijska industrija. Među tim promjenama vidimo nagle izmjene organizacijskih struktura, drukčiji pristup konkurenciji i klijentima, kao i davanje velike važnosti analizi podataka u strateškom i taktičkom odlučivanju. Ulaganje u analizu podataka više se ne smatra luksuzom, već nužnošću, pogotovo za financijske organizacije u zemljama u razvoju. Tehnologija i znanost podataka u isto vrijeme tjeraju na promjene i daju priliku financijskoj industriji da odgovori na transformativne zahtjeve i prilagodi se promjenjivim tržišnim uvjetima u svrhu opstanka i napretka u visokokonkurentnom globalnom okruženju. Financijske tvrtke koje posluju u zemljama u razvoju moraju razviti snažno razumijevanje trendova vezanih za informacije, kao i njihovog utjecaja i potencijala koji donose. To znanje je vrijedno ne samo za napore uložene u svrhu opstanka u novim uslovima, nego i kao prilika uključivanja u aktivnosti na globalnoj razini kroz inovaciju, fleksibilnost i rano usvajanje prednosti koje donosi znanost podataka. U ovom članku se, također, sugeriraju daljnja povezana istraživanja koja bi mogla pružiti dodatnu korist i znanje tvrtkama koje žele da sudjeluju u globalnim razmjenama informacija i analitičkim trendovima.

**Ključne riječi:** "Big Data", analitika odluka, znanost podataka, financijska industrija, zemlje u razvoju

**JEL Classification:** C55, C80, G21, G23

### 1. Introduction

*"The goal is to turn data into information and information into insight."*  
Carly Fiorina, CEO Hewlett-Packard

Data is all around us – endless streams of information continuously generated and accumulated as a result of business, science, and media activities as well as social interaction. Supported by recent advancements in data storage solutions, cloud computing and processing power, companies and individuals can now keep vast amounts of data at a lower cost than ever before – providing means to store, combine, and utilise large datasets for various purposes. The amount of data accumulated in the past decade exceeds the amount of data available over the entire previous century, marking the "Big Data" trends pivotal for innovation, competition, and productivity. Big data trends have also impacted on the development of data science, especially business intelligence. The past decade has been especially focused on the development of new tools to assist with data analysis, but also overall organisational education about data and its value.

Most organisations believe in the value of data and thanks to the technology that allows affordable storage of large quantities of data in the original format, they continuously store as much data as possible. The result is that we have large data stores everywhere, containing structured and unstructured information, waiting to be utilised for business purposes. In addition to the new data streams, organisations also continue to keep their "old" business data, stored in legacy systems. Organisations are keen on getting the value out of all their data, so efforts and clear strategies are required in order to organise the available information and identify the most valuable aspects of

data analytics that can assist in decision making and business development. Many organisations are taking a proactive approach in managing their data and are actively seeking the ways to effectively utilise their data value to support business development, delivery on strategy and more effective financial and operational management.

## 2. Data Analytics, Business Intelligence and Big Data

*Data analytics* involve creation of various analysis models and simulations in order to present particular scenarios (business or otherwise) that can assist with future prediction and overall decision making.<sup>1</sup> One of the most popular processes in data analytics is data mining, used for discovery of meaningful correlations, patterns, and trends among the large datasets and based on pattern recognition technologies, statistical, and mathematical techniques (Dubey, Kamath & Kanakia, 2016, 5-8). Data mining effectiveness is well known to financial managers, especially when it comes to trading models, fraud management, bankruptcy prediction, and managing of risk (Kadam & Raval, 2014, 377-387).

*Business intelligence* (BI) refers to collection of applications, infrastructure, tools, models, and best practices that enable access to and analysis of information to improve and optimise business decisions and performance.<sup>2</sup> While the utilisation of various forms of data analysis for decision-making purposes has always been an integral part of business function, the true power of BI has been realised through rapid technology advancements, especially in data science space. Hundreds of different tools have become available over the years (Ohata & Kumar, 2016, 63), ranging from generic data analysis applications to highly specialised software solutions.

Data analytics and BI assist both private and public sector in making all types of business decisions, including tactical, operational, and strategic (Gang-Hoon, Trimi & Ji-Hyong, 2014, 78-85). While both terms are often used interchangeably, more recent understanding is that the term “business analytics” refers to both BI and the advanced data analytics. BI solutions are often related to dashboards, online analytical processing, and data visualisation, focusing on presenting the information and results of data analysis in management-friendly form. Advanced analytics involve modelling and “what if” scenarios that go beyond the data displayed by BI. Table 1 shows some of the main differences.

**Table 1** BI and Advanced Analytics

	Answers to questions	Focus
<b>Business intelligence</b>	What happened? When? Who? How much/many? How long?	Reporting (KPIs, metrics) <i>Ad hoc</i> querying OLAP (cubes, slice & dice, drilling) Dashboards/scorecards Operational/real-time BI Automated monitoring/alerting
<b>Advanced analytics</b>	Why did it happen? Will it happen again? What will happen if we change <i>x</i> ? What else does the data tell (what we never thought to ask)?	Statistical/quantitative analysis Data mining Predictive modelling/analytics Big data analytics Text analytics Multivariate testing

Source: Rouse, 2016

Big data trends have significantly impacted on the development of data analytics solutions and created number of challenges as well as opportunities for innovation (Moorthy et al., 2015, 74-96). Big data phenomenon is often defined as 5V, i.e. *Volume, Velocity, Variety, Veracity, and Value*. These 5Vs pose additional challenge for the providers and users of BI solutions as they add new parameters to already complex concept and implementation of data analytics, modelling, and technology. While the volume is often thought of as the main challenge associated with the big data,

other Vs such as diversified data types (Variety), timely response requirements (Velocity), and uncertainties in the data (Veracity) are often harder to manage than the volume of data (Jin et al., 2015, 59-64).

Big data trends are changing the way people work, live, and manage business, especially how they perceive and utilise business information (Mayer-Schönberger & Cukier, 2015, 66+). Organisations are more and more realising and appreciating the power that comes with data analytics and the ability to achieve competitive edge within their industry as well as to venture into new business opportunities (Worster, Weirich & Andera, 2014, 35-39). Understanding the data value and the ability to evaluate and utilise data analytics for business purposes have become an essential and integral part of the business and technology strategy for most organisations (Geraci, 2015, 1-6). High level of data awareness and the ability to take advantage of data-related trends require strong commitment, which often include organisational changes, significant technology investment, and focus on research and development (Ohata & Kumar, 2012, 64).

### 3. Business Analytics and Big Data in Finance Industry

It is important for every organisation to be able to utilise available data in order to manage business operations, product development, and accurate reports that will assist decision-making process. This is particularly important for the companies operating in finance industry. Banks and other financial organisations were among the early users of data analytics and they continue to improve their analytical capabilities (Dick, 2008, 1661-1676). The application of business analytics in finance industry is quite diverse and widely utilised. Financial functions and activities such as stock forecasting, portfolio management, investment risk analysis, prediction of bankruptcy and foreign exchange rate, detections of financial fraud, loan payment prediction, customer credit policy analysis, corporate performance prediction are just some of the areas that maintain strong reliance on data analytics for accurate and effective decision-making (Kadam & Raval, 2014, 377-387).

One of the most significant (and pioneering) applications of data analytics within finance industry has been in *capital markets*. With markets becoming increasingly interrelated, complex, globally connected, and involving different data sets and variables, the reliance on accurate data analytics is higher than ever. Analytics are being used to give trading operations a clear-cut edge in areas such as multi-asset trading, market surveillance, derivatives, and stock price prediction (Beck, 2012, 1).

*Banks* are known to continuously make large investments in technology solutions that deal with mobile and online banking, fraud prevention, customer service, and operational efficiency. Data analytics has become an integral part of those solutions and serves as a vehicle for evaluation of efficiency and effectiveness of these services (Gadda & Dey, 2014, 37-58). Most large banks and other financial organisations store their historical data in complex transactional (and legacy) core systems, which creates additional challenge for financial organisations when it comes to data integration, availability and utilisation for analytical purposes (Flerlage, 2014, 64-65). Data analytics, especially the use of big data helps the banks better understand customer needs and anticipate their response to new products and services. Retail banks often offer a wide range of services and having access to tools that help identify behavioural patterns of the existing and potential customers can not only reduce the overall operational cost but also identify new needs that can turn into product development opportunities (Graham, 2012, 29). For the large organisations such as banks that deal with a highly diverse and large customer population in very competitive conditions the value of analytics is paramount.

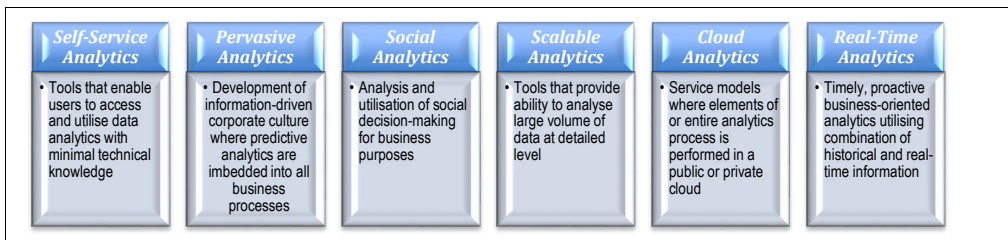
Financial companies that offer *insurance* services have also found some innovative ways to offer more tailored products and services to their customers (Chang & Elyasiani, 2015, 3559-3576), while controlling cost and managing risk – all thanks to power of analytics and the big data. For example, technology today allows for collection and analysis of satellite data on truck drivers in

order to calculate insurance costs for companies and individuals. Models are built that simulate catastrophic events, predict and investigate insurance fraud as well as to evaluate various types of premiums and risks on individual and organisational level (Graham, 2012, 22). Customers can access their real-time insurance information and interact with the insurance firms online when making claims. Insurance companies can issue weather or traffic warnings to affected customers and offer tailored products when their analytics models indicate customer need for particular service. All these developments in the insurance space are far more effective with technical developments in the analysis of big data.

Analytics and big data have also provided some innovation opportunities for the *accounting and auditing* services. Improved collection methods and the ability to capture and analyse additional data (including video and audio) helps with accuracy of reporting, reviews, budgeting, and decision-making (Warren, Moffitt & Byrnes, 2015, 397-407). With the development of real-time accounting and audit services these financial activities could really increase their value in providing equally reliable and accurate but more proactive and faster information for various purposes, such as litigations, investigations, audits, and business evaluation (Kyunghee, Hoogduin & Zhang, 2015, 431-438). Big data, analytics and global connectivity have also open the doors for further standardisation and alignment between different accounting standards, helping with accuracy and clarity of financial statements for internationally-active organisation and their auditors (Brands, 2014). Knowing that accounting information is reliable and enjoys good reputation in the financial world, there is opportunity for more innovation ideas to be implemented in this space now that analytics and big data provide tools for fast and accurate analysis of massive volumes of data (Hagel, 2013, 20-21).

*Risk analysis* is one of the key areas of the big data and analytics application in the finance industry. Whether the focus is on the evaluation of credit risk (Srivastava & Gopalkrishnan 2015, 643-652), bank performance (Gökgöz, 2009, 43-50), compliance and regulatory reporting (Gadda & Dey, 2014, 37-58) or insurance evaluation (Chang & Elyasiani 2015, 3559-3576), the power of analytics and the big data provide additional assurance and comfort for risk management. Business analytics consultants predict significant demand for data analytics services in the coming years, in the areas presented in Figure 1.

**Figure 1** Predicted Demand Areas in Business Analytics



Source: Adapted from (Perficient, 2016)

Overall, the goal of big data and analytics utilisation within finance industry is to improve customer insight and information, provide effective reporting and information on company performance, profitability of business activities, projects and initiatives, develop effective sales and pricing models, manage risk and meet regulatory and compliance requirements.

#### 4. Application of Data Analytics in Other Areas

Data analytics can be applied to various areas of business, community, and government activities, supporting decision-making and continuous improvement in every aspect of human life. Here are some notable applications of data analytics.

Both business and government value the power and usefulness of data, although they use data analytics for different purposes. While the main business focus is on maximising profits, government aims to maintain domestic tranquillity, ensure sustainable development and welfare as well as ensure continuous economic growth (Gang-Hoon, Trimi & Chung, 2014, 78). *Governments* around the world recognise that data analytics has the potential to make a major difference in governmental accountability and performance through higher transparency of prudent use of resources aimed at achieving effective results (Sims & Sossei, 2012, 34-37). Data analytics can also increase government efficiency through automation of various services such as immigration, tax, pensions, welfare, transport, crime prevention, and security. Combined with web technology, data analytics can reduce costs and improve customer service. At the same time, the utilisation of data output by government customers can also be measured and used to adjust the resourcing around various services, further improving overall government efficiency (Joseph & Johnson 2013, 43-48). Furthermore, big data analytics have been strongly utilised by the government in the areas of security, surveillance, and counter-terrorism efforts. Big data has strong potential to improve counterterrorism strategies and practices to accelerate the identification of terrorist networks, support identification of the roots of radicalisation by engaging online community and strengthen the effectiveness of attack prevention methods (Staniforth & Akhgar, 2015, 23-38). Just like it is the case with the profit-driven business organisations, the government data is being accumulated in great volumes, with lower level of utilisation in comparison to the amount of data stored. It is interesting to review these challenges through the economic theory of overproduction and under-consumption and realise that the big data presents an anomaly to this economic theory, as the more data is produced there is increased value in the potential insight that can be obtained from such data, instead of the data losing value. While the consumption of big data continues to lag behind the rate of production, the value will continuously increase. It is in the interest of citizens and their governments to maximise the use of big data and analytics in order to continuously improve effectiveness and efficiency of government services (Gang-Hoon, Trimi & Chung, 2014, 84).

The *healthcare industry* has generated vast volumes of data which can be utilised for further improvements of patients and overall progress of healthcare science. While some of this data still kept on record is not digitalised (e.g. old patient files), there is a lot of information stored in analytics-friendly format. There are many uses of health information, but the main areas where both data analytics and big data technology can be used are: patient centric services provision, control and detection of infectious diseases and epidemics, healthcare quality monitoring and treatment methods improvement (Archenaa & Anita, 2015, 408-413). Data analytics can assist with creation of an effective and efficient healthcare system, exchange of information between medical professionals and scientists as well as global nutrition and safety monitoring. Millions of health professionals and scientists around the world as well as billions of patients generate enormous volume of useful information that, with effective analytics, can rapidly contribute to the development and progress of healthcare and health science (Huang et al., 2015, 2-11). Besides, healthcare logistics and supply chains are becoming increasingly complex and costly. Analytics can assist with streamlining of these chains, while reducing costs, fraud, and waste. In addition to data collection and storage, effective standardisation of health information is one of the key components for successful data exchange, integration, and analytics (Smith, Nachtmann & Pohl, 2012, 3-10).

Data analytics has been recognised as an integral part of *science and education* through the development of data science. Data science is an interdisciplinary field focused on collection, management, and utilisation of large volumes of data. It is also seen as a philosophy, a collection of

methods, and a suite of analytics that focuses on data management, visualisation, and exploration of data (Broome, 2016, 113-114). Data science integrates various scientific fields such as signal processing, mathematics, probability models, machine learning, computer programming, statistics, data engineering, pattern recognition and learning, data visualisation, and uncertainty modelling (de Moraes & Martínez, 2015, 1-2). Data analytics has also had great influence on other scientific areas such as geology, biology, chemistry, biometrics, engineering, bioengineering, genetics, physics, astronomy, sociology, psychology etc. The level of influence on traditional science and disciplines has also posed some philosophical questions in terms of creation of new sub-sciences and sub-disciplines in comparison to more classical scientific image (Callebaut, 2012, 69-80). For example, scientific simulation enabled by analytics and technology developments has also contributed to the increase in commercial application of data and science, especially in engineering and technical scientific project (Belaud et al., 2014, 521-535). High performance computing enables modelling and predictive analysis and visualisation of various scientific ideas and potential solutions. In addition, cloud technology enables stronger collaboration, data accessibility and information exchange, supporting scientific developments and application in commercial environment (Pandey & Nepal 2013, 1774-1776). One of the most significant data-driven scientific undertakings in biology to date, the 1000 Genomes Project, has the primary focus on creating a catalogue of human genetic variations. This data is publicly available and thanks to analytics can be used to support many other streams of research, contributing in multiple ways to medical and bioinformatics research (Clarke et al. 2012, 459-462). Moreover, application of analytics in science extends to education, where students and educators around the world can collaborate, exchange information, and access scientific results and issues that can assist in continuous education and research. This is particularly important for research efforts in health education as it directly impacts on the wellbeing of people (Ellaway et al., 2014, 216-222). Development of analytics and data science influenced creation of new tertiary courses as well as professions and research topics. Analytics helps evaluate quality of educational efforts and determination of future needs for specific professions and expertise (Blau & Gobble, 2015, 3-6).

Data analytics has become an important tool in managing *business*, especially for finance, business development, marketing, and sales departments. For example, consumer analytics have been an integral part of business decision-making, in the area of behavioural insights about customers in particular (Erevelles, Fukawa & Swayne, 2016, 897-904). These traditional marketing techniques often relied on localised, limited dataset. Recent developments and technical capabilities have provided conditions for high magnitude, mobility, and versatile solutions for strategic business activities and new product development. This shift in data utilisation and business analytics is considered revolutionary, as it fundamentally changes the way business perceives customers and the ability analyse customer needs and predict their preferences and behaviours (Xu, Frankwick & Ramirez, 2016, 1562-1566). The power of analytics is especially becoming valuable to finance departments, as the information on company performance is integrated with budgeting, forecasting, and overall financial information, centrally managed within this part of organisation. There is strong increase in CFO interest in cloud technology, big data trends, and data analytics and preference for spending on mobile and data technology over IT infrastructure. This increase in CFO interest in technology is an important step towards stronger relationship between financial and technology leadership that has traditionally posed a challenge (Srivastava & Gopalkrishnan, 2015, 643-652). The following are some of the main areas of analytics application within financial departments (Kadam & Raval 2014, 377-387): planning, budgeting and forecasting, covering contribution, aggregation, manipulation, and approval of the financial plans; financial consolidations and reporting, covering legal and statutory consolidation; financial analytics and dashboards used for profitability calculations and modelling of various scenarios for product development, sales, and financial processes; financial governance, risk management, and compliance in line with operating rules, audit requirements and reporting standards; scorecards and strategy where financial prediction and results are compared with the management performance indicators and plans. In addition to financial application, product development and marketing, the value of data analytics for business

decision-making is also highly utilised in legal and risk management, operational efficiency, legal exposure management, and fraud detection. Organisations are using analytics to evaluate decisions and plans such a risk exposure with new initiatives, detect and prevent illegal activities, ensure rules and standards compliance, evaluate company integration after mergers and structure changes, protection of confidential information etc. (Moro, Cortez & Rita, 2015, 1314-1324). Big data analytics has also made some great contributions to the retail sector, prompting significant innovations and improvements in supply chain, stock management, and cost control. Organising each stock item so that suppliers, customers, sales, inventory staff, and marketing can access it and manage in real time has not only improved the effectiveness and efficiency of the retail sector, but also lowered inventory risks and related costs (Pham, 2015).

## **5. Business Analytics Implementation - Data Projects**

Projects that focus on data solutions often follow the same methodology and principles as other business or IT projects within the same organisation. In addition to classical waterfall methodologies and more recent agile approaches to IT project implementation, many organisations are searching for their own ways in achieving greater success and faster delivery of *data-driven projects*. Their efforts often involve development of processes and procedures that manage data projects in line with data lifecycle (Charbonneau, 2013, 365-374). In addition to technical and data expertise, effective and mature development processes are one of the critical success factors for data-driven projects (Misirli et al., 2013, 54-61) and organisations that are new to the analytics should ensure that appropriate processes and expertise are in place, if they are aiming for a successful data venture.

Many analytical tools available today are highly intuitive and can give the impression that they can be easily used without any rules or methodology. While experimentation is highly important in data space, it is critical that processes and procedures exist to ensure “intelligent experimentation” (Viaene & Van den Bunder, 2011, 69), involving methodical and planned approach that can result in established operational routines and streamlined procedures for later analytical everyday processing. The key for successful establishment of an effective data project environment within an organisation is in strategic commitment, effective planning, and clear executive strategy that values and recognises organisational importance of data and its alignment with the business (Palem, 2014, 25-34). It is also important to recognise the types of data projects and choose the most appropriate approach for planning and delivery. For example, stand-alone projects that do not require integration with the existing or even legacy systems can use less procedural and technical scrutiny, focusing instead on fast delivery and output quality (Viaene & Van den Bunder 2011, 65). More complex project that involve integration with operational systems need to be managed strictly in line with the established software development and project processes and procedures (Mishra, 2014, 9). Venturing into big data space requires even stronger and more serious commitment from organisational perspective and requires continuous adaptability, education, and an ongoing commitment to data-driven development and investment (Charbonneau, 2013, 373).

## **6. Cross-Industry Collaboration Opportunities**

There are many opportunities for *cross-industry collaboration in analytics space*, creating new business and revenue avenues, higher efficiency, and cost reduction solutions as well as prospects for disruptive ventures into uncharted territories. Here are a few examples that hint at the enormous potential associated with cross-industry analytics collaboration:

**Table 2 Cross-Industry Analytics Opportunities**

Areas	Application example
Insurance and weather services	Insurance company integrating weather service information with their customer data, using customer location and their preferred contact method (e-mail, SMS) to send alerts when their area might be affected by extreme weather conditions. This not only reduces the overall damage and insurance costs if people have a chance to prepare after receiving a warning, but also improves relationship between customers and their insurer, focusing on prevention rather than insurance claim processing.
Transport and finance	An airline can utilise credit card and customer loyalty program information from a finance provider to establish where else their customers tend to travel (after disembarking from their long-haul flights) by tracking their spending locations – this can help establish the new plane routes and capture additional revenue, keeping the existing and attracting new customers.
Transport and city planning	Government and transport organisations can integrate GPS and toll information with vehicle counting systems to determine road utilisation patterns, providing vital data for planning of major infrastructure projects as well as improving the accuracy of the financial evaluation for the funding.
Tourism, health, social networking	Tourist companies can use real-time health information to develop and offer various products to people recovering from illnesses or to address specifics needs. For example, offering “babymoon holidays” for pregnant couples, weight loss “boot camps” for people with weight issues, “serenity cruises” for those experiencing stress-related health risks etc. Integrating it further with the social networking information on their customers’ real-time updates (relationship status, birthday, events, posts etc.), additional services can also be developed and offered with greater chance for successful engagement at lower marketing costs.
Insurance, health, social networking	Insurance companies could integrate a standardised real-time health information feed in their risk evaluation process for various products (life insurance, income protection etc.) and automate premium adjustments and pre-approval process. Also, insurance claim processing can keep track of customer travel by integrating social networking information to evaluate risk associated with health and travel insurance for specific regions at any point in time.

Source: Authors

Hence, cross-industry collaboration opportunities are endless. Highly sophisticated search engine analytics are often used to identify patterns for business and customer service opportunities, creating ideas for new business partnerships and ventures.

## 7. Big Data Analytics and Developing Countries

Big data analytics is making a huge impact on the way we perceive the world and its development potential. It is revolutionising the science and art of segmentation, targeting, and positioning to market goods and services as well as enhancing forecasting and targeting for highly efficient production and supply, opening doors for new ideas, innovation, and development (Ohri, 2015). Every business, regardless of its nature, location, success level or organisation, creates data. Business owners and managers who wish to improve the success of their business should perceive their data as an asset and have a strategy to effectively utilise it (Marr, 2015). Businesses can improve operational efficiency, hospitals and hotels can improve services, and retailers and service industries can better manage their deliveries. Successful application of big data analytics automatically creates a competitive advantage. Companies that utilise big data analytics are highly valued by investors, indicating high data value awareness among investors and general public. While it is expected that developed countries and big business have advantage over developing countries and small businesses, the lower costs of storage and sheer offer of analytical tools at affordable prices on the market levels the playing field (Pham, 2015) for *small to medium enterprises* (SMEs), especially for those operating in the *developing countries*. In addition to utilising their own data, SMEs in developing countries can access vast volume of free or low-priced data available for download, which can open doors for new ideas and business opportunities for local, regional, and global expansion (Jaya Prakash & Keshab, 2015, 236-258).



So, where should SMEs in developing countries start if they wish to take their first step into the wonders of the big data analytics? Data analytics experts recommend the following steps for SMEs to unlock the power of big data for their business (see Table 3).

**Table 3 Steps for SMEs to Incorporate Big Data into Business Decisions**

Step	Details
Perform needs assessment exercise	<ul style="list-style-type: none"> <li>• Conduct a quick, simple experiment to assess the value of big data for your organization. For example, create a simple report by conducting free-trial evaluation of analytical tools.</li> <li>• If possible, use an expert to guide your efforts in data value discovery.</li> <li>• Get continuously informed by following data trends and events, magazines and blogs.</li> </ul>
Use the analytics to complement your decision-making processes	<ul style="list-style-type: none"> <li>• Utilise your experimental data to test some of your strategic and tactical decisions, investments, and projects.</li> <li>• For any new projects or initiatives try and include an element of data evaluation.</li> <li>• With more confidence in your own data analytics ability, increase the level of input into the decision-making process.</li> <li>• Invest into expertise assistance to increase your data analytics value.</li> </ul>
Encourage innovation and creation of new ideas	<ul style="list-style-type: none"> <li>• Encourage your employees to get informed and educated in data analytics, relevant trends, and events.</li> <li>• Encourage new ideas that will be more frequent as people start using analytics to support their decisions.</li> <li>• Engage your employees and customers in data visualization and evaluation.</li> <li>• Set the processes and procedures to support the integration of data analytics in your daily routine.</li> <li>• Think of integration of your existing technology, online services and mobile technology, and how your data can capitalise on available devices and services.</li> </ul>
Ensure data protection and stakeholder confidence	<ul style="list-style-type: none"> <li>• Set up clear rules and standards for data handling.</li> <li>• Ensure your stakeholders are confident in your security practices when it comes to data protection.</li> <li>• Demonstrate the value, accuracy, and security of data to your customers and associates.</li> <li>• Include your data activities in your brand and ensure you are visible in promoting and utilising the power of big data analytics.</li> </ul>
Look into opportunities for business development	<ul style="list-style-type: none"> <li>• Get active with the global online community and exchange ideas and issues.</li> <li>• Explore success examples for original business ideas and disruption opportunities and evaluate them against your business, your competitors, and environment.</li> <li>• Look into your local, regional and global opportunities that match your capabilities.</li> <li>• Be ready to take ideas into experimental stage – start small and build up when there is clear opportunity to do so.</li> </ul>

*Source: Adapted from (Viaene, 2014)*

Being a SME in a developing country can be a disadvantage, but with the help of global integration, exchange of information, and data analytics, these disadvantages can be turned into opportunities. SMEs need to embrace the big data trends and look for the ways to harness the enormous power that come with data analytics. Of course, every company is different. It is important to take the first step towards the realisation and utilisation of data power. Once the first benefits become clear, new ideas will emerge and often provide new avenues for business activity and development.

## 8. Conclusion

Implementation of quality data analytics capabilities used to be reserved for large corporations with big budgets, operating in well-established economies. Recent technology advances and a wide choice of tools and flexible data solutions have brought the power of analytics within the reach of SMEs as well as developing countries. Developing countries and SMEs need to seriously consider the value of analytics, especially if they area of business growth, new opportunities, and business efficiency. The challenges previously associated with data management and analytics should be

turned into opportunities, with the aid of higher awareness, best practices, and technology made available in the data space.

The benefits of big data analytics are revolutionising traditional industry practices and creating new disciplines, roles and business opportunities. We see new business ventures, partnerships and disruptive innovation – all resulting from big data opportunities. The business landscape is changing rapidly and creating a window of opportunity for everyone to embrace the benefits that come with the big data analytics – by embedding the data-minded thinking in their decision making processes.

## REFERENCES

- Archena, J. & Anita, E. A. M. (2015). "A Survey of Big Data Analytics in Healthcare and Government". *Procedia Computer Science* 50: 408-413.
- Beck, J. (2012). "Report: Overview - Data analytics - Making the most of analytics". *The Banker*.
- Belaud, J.-P., Negny, S., Dupros, F., Michea, D. & Vautrin, B. (2014). "Collaborative simulation and scientific big data analysis: Illustration for sustainability in natural hazards management and chemical process engineering". *Computers in Industry* 65(3): 521-535.
- Blau, J. & Gobble, M. M. (2015). "Big Demand For Big Data Scientists in Europe". *Research Technology Management* 58(3): 3-6.
- Brands, K. (2014). "Big data and business intelligence for management accountants". *Strategic Finance* 95: 64+.
- Broome, M. E. (2016). "Big data, data science, and big contributions." *Nursing Outlook* 64(2): 113-114.
- Callebaut, W. (2012). "Scientific perspectivism: A philosopher of science's response to the challenge of big data biology". *Studies in History and Philosophy of Science Part C: Studies in History and Philosophy of Biological and Biomedical Sciences* 43(1): 69-80.
- Chang, M.-S. & Elyasiani, E. (2015). "Do insurance activities enhance the performance of financial services holding companies?" *Applied Economics* 47(33): 3559-3576.
- Charbonneau, D. H. (2013). "Strategies for Data Management Engagement". *Medical Reference Services Quarterly* 32(3): 365-374.
- Clarke, L., Xiangqun Zheng-Bradley, X., Smith, R., Kulesha, E., Xiao, C., Toneva, I., Vaughan, B., Preuss, D., Leinonen, R., Shumway, M., Sherry, S. & Flicek, P. (2012). "The 1000 Genomes Project: data management and community access". *Nat Meth* 9(5): 459-462.
- de Moraes, R. M. & Martínez, L. (2015). "Computational Intelligence Applications for Data Science". *Knowledge-Based Systems* 87: 1-2.
- Dick, A. A. (2008). "Demand estimation and consumer welfare in the banking industry". *Journal of Banking & Finance* 32(8): 1661-1676.
- Dubey, A., Kamath, S. & Kanakia, D. (2016). "Learning Data Mining Techniques". *International Journal of Computer Applications* 136(11): 5-8.
- Ellaway, R. H., Pusic, M. V., Galbraith, R. & Cameron, T. (2014). "Developing the role of big data and analytics in health professional education". *Medical Teacher* 36(3): 216-222.
- Erevelles, S., Fukawa, N. & Swayne, L. (2016). "Big Data consumer analytics and the transformation of marketing". *Journal of Business Research* 69(2): 897-904.
- Flerlage, J. (2014). "Three Insights for Managing Legacy Data". *Chemical Engineering* 121(5): 64-65.
- Gadda, K. R. & Dey, S. (2014). "Business Intelligence for Public Sector Banks in India: A Case study - Design, Development and Deployment". *Journal of Finance, Accounting & Management* 5(2): 37-58.
- Gang-Hoon, K., Trimi, S. & Chung, J. (2014). "Big-Data Applications in the Government Sector". *Communications of the ACM* 57(3): 78-85.
- Geraci, R. (2015). "Data analytics: go big or go home". *Business Week* (4436): S1-S6.

- Gökgöz, F. P. (2009). "Data Envelopment Analysis for Turkish Banks: Evidence on the Financial Efficiencies of the Commercial and Investment Banks". *Banking and Finance Letters* 1(2): 43-50.
- Graham, R. (2012). "Big Data and Financial Services: Are European Privacy and Information Security Hindering Innovation?" *International Law News* 41(4): 22-29.
- Hagel, J. (2013). "Why Accountants Should Own Big Data". *Journal of Accountancy* 216(5): 20-21.
- Huang, T., Lan, L., Fang, X., An, P., Min, J. & Wang, F. (2015). "Promises and Challenges of Big Data Computing in Health Sciences". *Big Data Research* 2(1): 2-11.
- Jaya Prakash, P. & Keshab, D. (2015). "Regional export advantage of rising power SMEs: Analytics and determinants in the Indian context". *Critical perspectives on international business* 11(3/4): 236-258.
- Jin, X., Wah, B. W., Cheng, X. & Wang, Y. (2015). "Significance and Challenges of Big Data Research". *Big Data Research* 2(2): 59-64.
- Joseph, R. C. & Johnson, N. A. (2013). "Big Data and Transformational Government". *IT Professional* 15(6): 43-48.
- Kadam, S. & Raval, M. (2014). "Data Mining in Finance". *International Journal of Engineering Trends and Technology (IJETT)* 16(8): 377-387.
- Kyunghee, Y., Hoogduin, L. & Zhang, L. (2015). "Big Data as Complementary Audit Evidence". *Accounting Horizons* 29(2): 431-438.
- Marr, B. (2015). "4 Ways Big Data Will Change Every Business". *Forbes*. Retrieved March 2016, from <http://www.forbes.com/sites/bernardmarr/2015/09/08/4-ways-big-data-will-change-every-business/#993d5bf79000>.
- Mayer-Schönberger, V. & Cukier, K. (2015). "Big Data: A Revolution That Will Transform How We Live, Work, and Think". *Research-Technology Management* 58(5): 66+.
- Mishra, J. (2014). "Data Integration Key to Moving to New Software". *Credit Union Journal* 18(36): 9-9.
- Misirli, A. T., Caglayan, B., Bener, A. & Turhan, B. (2013). "A Retrospective Study of Software Analytics Projects: In-Depth Interviews with Practitioners". *IEEE Software* 30(5): 54-61.
- Moorthy, J., Lahiri, R., Biswas, N., Sanyal, D., Ranjan, J., Nanath, K. & Ghoshet, P. (2015). "Big Data: Prospects and Challenges". *Vikalpa* 40(1): 74-96.
- Moro, S., Cortez, P. & Rita, P. (2015). "Business intelligence in banking: A literature analysis from 2002 to 2013 using text mining and latent Dirichlet allocation". *Expert Systems with Applications* 42(3): 1314-1324.
- Ohata, M. & Kumar, A. (2012). "Big Data: A Boon to Business Intelligence". *Financial Executive* 28(7): 63-64.
- Ohri, A. (2015). "Big Data Initiatives in Developing Nations". *IBM Big Data & Analytics Hub*. Retrieved March 2016, from <http://www.ibmbigdatahub.com/blog/big-data-initiatives-developing-nations>.
- Palem, G. (2014). "Formulating an Executive Strategy for Big Data Analytics". *Technology Innovation Management Review* 4(3): 25-34.
- Pandey, S. & Nepal, S. (2013). "Cloud Computing and Scientific Applications – Big Data, Scalable Analytics, and Beyond". *Future Generation Computer Systems* 29(7): 1774-1776.
- Perficient (2016). "Business Intelligence and Analytics in Financial Services". Retrieved March 2016, from <http://www.perficient.com/Industries/Financial-Services/Business-Intelligence>.
- Pham, P. (2015). "The Impacts Of Big Data That You May Not Have Heard Of". *Forbes*. Retrieved March 2016, from <http://www.gartner.com>.
- Rouse, M. (2016). "Business Intelligence". Retrieved March 2016, from <http://searchdatamanagement.techtarget.com/definition/business-intelligence>.

- Sims, H. G. & Sossei, S. E. (2012). "Federal Government Primed for Data Analytics". *Journal of Government Financial Management* 61(3): 34-37.
- Smith, B. K., Nachtmann, H. & Pohl, E. (2012). "Improving Healthcare Supply Chain Processes Via Data Standardization". *Engineering Management Journal* 24(1): 3-10.
- Srivastava, U. & S. Gopalkrishnan (2015). "Impact of Big Data Analytics on Banking Sector: Learning for Indian Banks". *Procedia Computer Science* 50: 643-652.
- Staniforth, A. & Akhgar, B. (2015), "Chapter 3: Harnessing the Power of Big Data to Counter International Terrorism". In: Akhgar, B., Saathoff, G. B., Arabnia, H. R., Hill, R., Staniforth, A. & Bayerl, P. S. (Eds.), *Application of Big Data for National Security, a Practitioner's Guide to Emerging Technologies*, Oxford: Butterworth-Heinemann, 23-38.
- Viaene, S. (2014). Four steps to unlock Big Data for SMEs. *BDaily*.
- Viaene, S. & Van den Bunder, A. (2011). "The Secrets to Managing Business Analytics Projects". *MIT Sloan Management Review* 53(1): 65-69.
- Warren, J. D., Moffitt, K. C. & Byrnes, P. (2015). "How Big Data Will Change Accounting". *Accounting Horizons* 29(2): 397-407.
- Worster, A., Weirich, T. R. & Andera, F. (2014). "Big Data: Gaining a Competitive Edge". *Journal of Corporate Accounting & Finance* 25(5): 35-39.
- Xu, Z., Frankwick, G. L. & Ramirez, E. (2016). "Effects of big data analytics and traditional marketing analytics on new product success: A knowledge fusion perspective". *Journal of Business Research* 69(5): 1562-1566.

---

<sup>1</sup> <http://www.gartner.com>. Accessed: March 2016.

<sup>2</sup> <http://www.gartner.com>. Accessed: March 2016.



**Umjesto  
zaključka**

**Instead  
of a conclusion**

## Umjesto zaključka

Na petom Međunarodnom znanstvenom simpoziju „GOSPODARSTVO ISTOČNE HRVATSKE VIZIJA I RAZVOJ“ kao i prošle tako i ove godine sudjelovao je znatan broj znanstvenika istraživača i stručnjaka iz prakse. Obradivali supretežno teme, vezane za gospodarstvo sa vizijama i prijedlozima za pozitivne promjene i unapređenja.

U radovima su obrađena sva tematska područja, međutim, akcenat je dan na uređenju poslovne politike, edukaciji, kao neophodnom čimbeniku za ostvarivanje poslovnog uspjeha. Autori su istražili zbog čega se u gospodarstvu ne koristi više savjetničkih usluga i mentora koji bi svojim iskustvom i stečenim znanjem lidera, pripomogli u rješavanju poslovnih problema. Savjetima bi uputili mlade, neiskusne poduzetnike, ili posrnule tvrtke, kako bolje proizvoditi kako pronaći puteve plasmana roba na svjetsko tržište. Dosta radova se odnosi na regionalni razvoj i mogućnost novog pristupa razvoju turizma kroz „integriranu turističku ponudu različitih specifičnih oblika turizma.“ Kako uvijek, tako i ovaj put interesantni su radovi koji obrađuju ekologiju, proizvodnju električne energije iz biomase i ostalih prirodnih izvora kojima obiluje istočna Hrvatska. Isto tako autori u svojim radovima na osnovu analize ukazuju na problem visokih poreznih opterećenja te na „važnost razvijanja odgovarajućeg poreznog okvira“ kako bi se privukli investitori, otvarale proizvodnje i konačno povećalo zapošljavanje stanovništva.

Rad koji analizira fiskalni položaj županija, ukazuje na problem nerazvijenosti regija u Hrvatskoj. Pema „neto fiskalnom položaju županija, analizom je utvrđeno da jedino grad Zagreb, Zagrebačka i Istarsko primorska županija su pozitivne, dok VS i OBŽ imaju najslabiju fiskalnu poziciju“. S obzirom na to, ukazuje se potreba za uvođenjem stimulativnih mjera za investitore a posebno u najnerazvijenije regije, ali i ostale dijelove RH, kako bi se postepeno ujednačio razvoj.

Kako su i ovaj put u najvećem broju radova sudjelovali mladi istraživači – posebno studenti doktorandi za očekivati je da će se njihove pozitivne vizije za razvoj ostvariti, dovesti investitore, otvarati novi pogoni, razvijati kontinentalni turizam, zaposliti stanovništvo i ubrzati rast BDP.


Radovi koji obrađuju teme „društveno odgovornog poduzetništva“, „održivi razvoj“, korištenje obnovljive izvora energije, su puni optimizma, te daju nadu da se jako brzo može napraviti zaokret u unapređenju gospodarskih aktivnosti i boljem životu u skoroj budućnosti. Kao i uvijek, tako i ovaj puta radovi koji obrađuju povijesna nasljeđa ukazuju na postojanje ljudsk resursa na ovim prostorima s obzirom na ne tako davno postojanje visoko razvijene prerađivačke i ine industrije i obrta, kulturu rada i življenja. Za očekivati je ponovo, s obzirom na prirodni potencijal koji postoji, zemlja, šume, voda obrazovani kadrovi, pokretanje i razvoj svih vrsta industrije i prerade na ovim prostorima. Time bi se zaustavilo iseljavanje mladih i školovanih ljudi koji svakodnevno napuštaju zemlju.

U svijetu smo prepoznatljivi po znanosti, jer smo u samom vrhu dokazanih znanstvenih istraživača, medicine, kvantne fizike, biotehnologije i dr, po uspjesima u sportu. Nema razloga da ne budemo i u domaćem okruženju. Posebno ako koristimo savjete naše dijaspore

– uspješnih poduzetnika i lidera, koji se nude u ulozi mentora svojim znanjem, stečenim iskustvom u zemljama razvijenog svijeta u unapređenju razvoja.<sup>1</sup>

S obzirom da postoje sve realne predispozicije za ubrzani razvoj, ljudi, prirodni potencijali - neuništena zemlja, zrak, voda, kulturna i spomenička baština, eko i etno vrijednosti, Sveučilište J. J. Strossmayer sa svojim fakultetima i programima razvoja, trebalo bi se očekivati oporavak gospodarstva Istočne Hrvatske, a time i cijele RH.

Prof. dr. sc. Anka Mašek Tonković



---

<sup>1</sup>U dijaspori, Hrvatska bratska zajednica<sup>1</sup> koju čine uspješni poduzetnici i prepoznatljivi u svijetu biznisa, znanstvena organizacija hrvatske dijaspore *Almae Matris Croatiae Alumni (AMCA)*<sup>1</sup>, kroz svoje veću trte staze i postignuća, nude svoju pomoć, kroz mrežu poznatih lidera. Njihova stečena znanja mogu koristiti našim poduzetnicima iz svih grana djelatnosti u stvaranju konkurentnosti i probitka na svjetsko tržište.<sup>1</sup>

## **In Closing**

The fifth International Science Symposium „The Economy of Eastern Croatia – Vision and Development“ has, just as the previous one, attracted a large number of research scientists and experts from this field. The topics covered during the symposium were mostly from the economic domain, with visions and proposals for positive changes and development presented.

The papers discussed covered all the main topics, however emphasis was put on the development of business policies and education, as an essential element in achieving business success. The authors tried to look into the reasons why the services of consultants and mentors, who could use their knowledge, leadership skills and experience to help tackle problems and issues, are not used more often within the economy. Their advice could help and guide young, inexperienced entrepreneurs or struggling companies get back on track and find a way to place their product onto the global market. A large number of papers talked about regional development and the possibilities of finding a new approach to tourism development through an integrated offer of different forms of tourism. As always, there was a number of attractive papers covering topics of ecology and production of electric energy from biomass and other natural sustainable sources Eastern Croatia has in abundance. Another major issue a lot of authors pointed out was the issue of high tax burden and “the importance of developing a fitting tax framework” in order to attract investors, increase production and finally increase the employment rate.

The paper that analyses the fiscal status of counties puts emphasis on the issue of undeveloped regions in Croatia. According to the “net fiscal status of counties, only the City of Zagreb, County of Zagreb and County of Istria have a positive status, while the counties of Vukovar-Srijem and Osijek-Baranja have the lowest fiscal status.” With that in mind, there is obviously a need to introduce stimulating measures for investors, especially in the least developed regions, in all parts of Croatia, to gradually achieve a balanced development.

Since this symposium again attracted mostly young researchers – especially doctoral students, it is expected that their positive visions will be achieved, thus attracting investors who would open new production plants, develop continental tourism, employ local population and speed up the GDP growth.

The papers that cover the topic of *socially responsible entrepreneurship, sustainable development and use of renewable energy sources* are glowing with optimism, providing hope that a quick turnaround in improving business activities is possible, thus ensuring better life for everyone in the near future.

As always, the papers that cover the topic of historical heritage pointed out the lack of human resources in the area, especially considering the not so recent existence of a highly developed processing and other industries and businesses, and the culture of living and working. It is expected that, considering the natural potential that this region has with its land, forests, water resources and educated people, we should experience a restart and development of all types of industry in this region. This would stop the alarmingly high emigration of young, educated people from the country.

As a nation, we’re recognized worldwide for our scientists, who are among the world’s elite in research, medicine, quantum physics, biotechnology and others, as much as we’re known for our athletes. There is no reason for it not to be the same in our homeland, especially if we



use the help of our expat community – successful entrepreneurs and leaders, who can offer us mentorship through their knowledge and experience gained worldwide to help us improve and develop.<sup>2</sup>

Considering the fact that this region has all the prerequisites for accelerated development – people, natural potential such as well-preserved land, water, cultural and monumental heritage, eco and ethno heritage, University of J. J. Strossmayer with all its faculties and development programmes, we should expect economic recovery of Eastern Croatia, together with the rest of Republic of Croatia.

Prof. Anka Mašek Tonković, Ph.D.

A handwritten signature in black ink, appearing to be 'Am', written on a light-colored rectangular background.

---

<sup>2</sup>Outside of Croatia, Croatian Fraternal Union, formed by successful entrepreneurs well known in business circles, together with scientific organization of Croatian expats AlmaeMatrisCroatiae Alumni(AMCA), offer their help and advice through their achievements and networking. Their knowledge can greatly help our local entrepreneurs in all branches of economy to become better competitors on the global market.





**Prilozi**

**Appendix**

PEDSJEDNICA REPUBLIKE HRVATSKE

Gđa. KOLINDA GRABAR KITAROVIĆ

18.03. 2016. god.

10 000 Z A G R E B

Predmet: Poziv na otvaranje 5. Međunarodnog znanstvenog simpozija „GOSPODARSTVO ISTOČNE HRVATSKE - VIZIJA I RAZVOJ“ na Ekonomskom fakultetu u Osijeku

Poštovana gospodo Predsjednice RH

Obraćamo Vam se s posebnom molbom i uvažavanjem, ako bi u Vašem rasporedu obveza, našli slobodnog prostora za dolazak na naš Ekonomski Fakultet u Osijeku i otvorili 5. Međunarodni znanstveni simpozij „GOSPODARSTVO ISTOČNE HRVATSKE - VIZIJA I RAZVOJ“ s uvodnom riječi.

**Bila bi nam posebna čast ako bi naš poziv prihvatili i svojim govorom otvorili ovaj značajan Simpozij. Simpozij se otvara 02. lipnja o. g. na Ekonomskom fakultetu u Osijeku, Gajev trg 7. dvorana 1, s početkom u 10 sati.**

Naš Fakultet, već petu godinu za redom, organiziranjem ovog Simpozija nastoji dati svoj doprinos razvoju ne samo istočne Hrvatske, već i cijele Hrvatske. Već dugi niz godina motiviramo znanstvenike i stručnjake iz prakse kako bi u radovima na osnovu istraživanja i ekonomske analize postojećeg stanja, te mogućnosti s obzirom na prirodne resurse i ljudski potencijal, dali prijedloge i vizije razvoja.

Radovi ovog Simpozija dobili su visoku ocjenu i uvršteni su u Web of Science Thompson Reuters. Na njemu osim dokazanih znanstvenika i stručnjaka iz prakse sudjeluju i budući doktorandi sa svojim istraživanjima uz ocjenu njihovih mentora. S obzirom da ste Vi jedan od doktoranada, pozivamo Vas da svojim radom sudjelujete na Simpoziju, te nam pošaljete jedan svoj rad.

Produžili smo rok za prijavu i slanje sažetka, jer smo otvorili mogućnost prijave zainteresiranim sudionicima.

Do sada imamo 120 radova, cca 250 autora i koautora, a sudionici Simpozija su iz Mađarske, Poljske, Slovačke, Češke, Srbije, BiH, Kanade i Hrvatske.

## OBRAZLOŽENJE

Poznato Vam je kako istočna Hrvatska koju čine pet županija prema svim ekonomskim indikatorima, veličini BDP i investiranju, zaostaje za ostalim regijama, a posebno u odnosu na prosjek RH. Istovremeno smo prema postojećim podacima, na prvom mjestu po odlasku posebno mladih visoko obrazovanih ljudi, a gradovi i sela ostaju napuštena i prazna. Od svih koji su napustili našu zemlju 58% je iz istočne Hrvatske.

Znalci i stručnjaci u ovom Simpoziju daju rješenja i programe, prijedloge za promjenu u vođenju poslovne politike koja bi trebala biti stimulativna. Postoje resursi, ljudski potencijal, i kvalitetna radna snaga s obzirom da je na ovim prostorima postojala visoko razvijena industrija svih klasifikacija djelatnosti, koja ima kulturu rada i življenja.

Sve možemo odraditi, polako ustajemo kao feniks, tako da pojedine mlade tvrtke s tehnološkim inovacijama i rješenjima, dobivaju međunarodne nagrade za svoja postignuća. No, treba nam više suradnje i stimulativne mjere za obnovu proizvodnje, obrta, malog i srednjeg poduzetništva, OPG-a i sela. Postoje značajni potencijali za razvoj kontinentalnog turizma, svih oblika kao što su; spomenici kulture, spomenička baština, dvorci i sakralni objekti, arheološka nalazišta, lov i ribolov, vinske ceste i gastronomija, ali smo premalo zastupljeni u turističkim propagandnim materijalima. Potrebno je stvoriti uvjete na povezivanju zelene i plave linije po uzoru na države koje brinu o kompletnoj turističkoj ponudi svoje zemlje kako bi ujednačili razvoj i zaposlili svoje stanovništvo.

Istočna Hrvatska slabo je zastupljena u programima razvoja. Prometni pravac „Koridor Vc još nije zaživio. Sredstva su bila osigurana za njegovo dovršenje 2009., a najkasnije 2011. godine. Njegovim dovršenjem dobila bi se poveznica Sjevera sa Jugom i lukom Ploče, a posebno, kada se izgradi autocesta kroz BiH. Treba poraditi na integralnom intermodalnom prijevozu ne samo istočne Hrvatske, već cijele RH. Ne smijemo dozvoliti da se sav promet sa Sjevera provodi koridorima susjednih zemalja, što se sada događa.

Vašim dolaskom na mjesto predsjednice RH i gospodina Oreškovića na čelo Vlade, očekujemo zaokret u vođenju poslovne politike sa svrhom bržeg oporavka gospodarstva. Na taj način zaustavio bi se odlazak mladih školovanih i sposobnih ljudi u Svijet tražeći posla i bolji život za sebe i svoju obitelj.

Vašim dolaskom u Osijek i na naš Fakultet dao bi poseban značaj, privuklo pažnju i važnost temama radovat ovog Simpozija.

Svima ćete dati do znanja da nismo zaboravljeni, da se sve mijenja na bolje. Ovi naši prostori, ratom najviše stradali, kuće popaljene i opljačkane, tvornice uništene, traže posebne mjere i programe koji mogu pokrenuti razvoj i zaposliti stanovništvo, te oživiti sela i gradove. Mora doći do promjena u kreiranju poslovne politike koja će omogućiti ljudima da rade, da se njihov trud isplati kako bi imali dovoljno za život dostojan čovjeka. Uspješni smo u sportu, u znanosti, samo međunarodna organizacija AMA broji cca 40.000 naših znanstvenika i stručnjaka u svijetu, njihova znanja koriste drugi, a mi ovdje zaostajemo, kao da nema izlaza, programa i vizije razvoja.

S poštovanjem,

Predsjednica organizacijskog odbora:

Predsjednik programskog odbora i dekan:

Prof. dr. sc Anka Mašek Tonković

Prof. dr. Vladimir Cini

Prilog: Poziv za radove



**REPUBLIKA HRVATSKA**  
**URED PREDsjedNICE**

KLASA: 053-02/16-04/267  
URBROJ: 71-03-04/3-16-02  
Zagreb, 6. travnja 2016.

Republika Hrvatska	
Sveučilište Josipa Jurja Strossmayera u Osijeku	
EKONOMSKI FAKULTET U OSIJEKU	
Priloga: 20.4.2016.	Drž. št.
Šifra prijavitelja: P00-01/16-01/001	01
Šifra prijavitelja: 2158-19-01-16-77	01

**Sveučilište Josipa Jurja Strossmayera u Osijeku**  
**Ekonomski fakultet**  
**dekan prof. dr. Vladimir Cini**

Poštovani gospodine Cini,

Predsjednica Republike Hrvatske Kolinda Grabar-Kitarović primila je pismo kojim ste izvijestili o pripremi 5. međunarodnog znanstvenog simpozija „Gospodarstvo istočne Hrvatske – vizija i razvoj“ koji će biti održan 2. lipnja 2016. u Osijeku te uputili zamolbu za njezinim sudjelovanjem na otvorenju skupa.

Slijedom navedenoga, a imajući u vidu utvrđene vanjskopolitičke obveze navedenog datuma, slobodni smo izvijestiti kako Predsjednica Republike nije u mogućnosti odazvati se Vašem ljubaznom pozivu. Jednako tako, slobodni smo izvijestiti kako ova isprika ne umanjuje činjenicu potpore Predsjednice Republike Vašem radu i cijenjenoj instituciji kojoj ste na čelu. Naprotiv, Predsjednica Republike drži kako je za daljnji razvoj hrvatskog gospodarstva te postizanje višeg stupnja društvenog razvoja istočne Hrvatske, potrebno inicirati upravo ovakva okupljanja znanstvenika i stručnjaka.

Stoga Vam ovim putem prenosimo njezinu potporu, kako za pripremu simpozija, tako i za Vaš daljnji rad na projektima važnima za razvoj hrvatskog gospodarstva.

Uz izraze poštovanja,

**PREDSTOJNIK**  
Domagoj Jurčić

**PREDSJEDNIK VLADE RH**  
**Gospodin Tihomir Orešković**  
**10000 Z A G R E B**

13. 05. 2016. god.

Predmet: Poziv na svečano otvaranje 5. Međunarodnog znanstvenog simpozija  
„GOSPODARSTVO ISTOČNE HRVATSKE VIZIJA I RAZVOJ“ u Osijeku,  
02. 06. 2016. u 10 sati na Ekonomskom fakultetu u Osijeku, Gajev trg 7, dvorana 1.

Poštovani gospodine Predsjedniče Vlade RH!

Ovom prilikom pozivamo Vas da nam svojom nazočnošću otvorite 5. Međunarodni znanstveni simpozij „GOSPODARSTVO ISTOČNE HRVATSKE VIZIJA I RAZVOJ“ koji se održava na Ekonomskom fakultetu Sveučilišta J. J. Strossmayer u Osijeku od 02. do 04. lipnja 2016. godine, u 10 sati, dvorana 1.

Ekonomski Fakultet već petu godinu organizira Simpozij pod ovim nazivom kako bi dali svoj doprinos razvoju kroz radove znanstvenika i stručnjaka iz prakse.

U prethodnom periodu 2004., 2005. i 2006. godine održavali smo tri simpozija pod nazivom „KORIDOR Vc KAO EUROREGIONALNA POVEZNICA NA PROMETNOM PRAVCU BALTİK – SREDNJA EUROPA - JADRAN“. Na taj način htjeli smo predstaviti javnosti da je dovršenjem cestovne infrastrukture omogućen brži protok roba sa krajnjeg sjevera do juga i luke Ploče. Smatrali smo da će završetkom Koridora Vc (koji pretpostavlja ne samo cestovni, već i željeznički, riječni i zračni promet) omogućiti prijevoznicima brži protok roba, a poduzetnicima uređenu infrastrukturu uz izgradnju gospodarskih zona. Gradovi i općine na brzinu su pristupile izgradnji gospodarskih zona, kako bi bile spremne za ulaganje i investicije u otvaranje novih pogona i pokretanje razvoja gospodarstva. Jer, poznato je kroz povijest, tamo gdje su izgrađeni prometni pravci, osigurana infrastruktura s postojećim prirodnim resursima i ljudskim kapitalom, postoji realna osnova za intenzivniji gospodarski razvoj. Sjetimo se uzrečice iz filma 'Field of Dreams – If you build it, they will come'.

Ugovorena gradnja cestovnog pravca Koridora Vc je trebala biti dovršena 2009 godine. Ostala je nedovršena zadnja dionica autoputa od 34 km do izgrađenog autoputa u Mađarskoj. Odlukom bivše Vlade, da zadnju dionicu autoputa degradira u užu 'brzu cestu', (ako se to prihvati) stvoriti će se usko grlo međunarodne prometnice "Baltik – Srednja Europa – Jadran". Žalosan je da kada dođe na red Slavonija, Baranja i zapadni Srijem - Istočna Hrvatska, tada se ignoriraju tehničke analize i bez opravdanja smanjuju investicije u infrastrukturu.

Gospodine Predsjedniče, ovim 5. Međunarodnim simpozijem „GOSPODARSTVO ISTOČNE HRVATKE VIZIJA I RAZVOJ“ želimo potaći poduzetnike i investitore, da koriste znanstvene prijedloge i vizije razvoja, bazirane na stručnim i stvarno provedivim projektima, te time doprinesemo razvoju naše Regije. Naučnici, doktorandi i stručnjaci iz prakse će predstaviti preko 100 radova i ako samo jedan od predloženih projekata zaživi, ovaj Simpozij i uloženi trud, opravdao je svoje postojanje.

Bilo bi nam posebno zadovoljstvo ako bi bili u mogućnosti Vašom nazočnošću, ali ne samo kao predsjednik Vlade, već i lider i dokazani menadžer, otvorili ovaj Simpozij, i time nam dali podršku u radu, sadašnjem i budućem održavanju.

S poštovanjem,

Predsjednica Organizacijskog odbora:  
Prof. dr. sc. Anka Mašek Tonković

P.s. Kaže se da nema vizije za razvoj i projekata.  
Neka se pogledaju naši prethodni Zbornici,  
pa će se naći rješenja i prijedlozi projekata.





**VLADA REPUBLIKE HRVATSKE**

URED PREDSEDNIKA

Klasa: 022-03/16-10/315

Urbroj: 50302/12-16-2

Zagreb, 17. svibnja 2016.

**SVEUČILIŠTE J. J. STROSSMAYERA  
U OSIJEKU  
EKONOMSKI FAKULTET  
prof. dr. sc. Anka Mašek Tonković, predsjednica  
Organizacijskog odbora**

Poštovana,

zahvaljujemo Vam na pozivu upućenom predsjedniku Vlade Republike Hrvatske, gospodinu Tihomiru Oreškoviću, na svečano otvaranje 5. Međunarodnog znanstvenog simpozija "Gospodarstvo istočne Hrvatske vizija i razvoj", koje će se održati 2. lipnja 2016. u Osijeku.

Predsjednik Vlade, gospodin Orešković se, nažalost, zbog drugih obveza, ne može odazvati Vašem pozivu.

Zahvaljujemo Vam na organizaciji ovog 5. po redu Simpozija, kojim kroz znanstveni rad i djelovanje dajte doprinos razvoju gospodarstva. Vjerujemo da će rasprave koje ćete otvoriti, a potom zaključci i prijedlozi biti poticaj poduzetnicima i investitorima u njihovom radu.

Srdačno Vas pozdravljamo i želimo puno uspjeha u radu Simpozija!

S poštovanjem,

**PREDSTOJNIK**  
**Neven Zelić**

## Zahvala sponsorima / Gratitude to sponsors

POKROVITELJ:



Ministarstvo gospodarstva RH

SPONZORI:



Osječko-baranjska  
županija



**studio hs**  
internet

