

**Emerging Markets Economics and Business.
Contributions of Young Researchers**

***Proceedings of the 10th International Conference of Doctoral Students
and Young Researchers***

Emerging Markets Economics and Business. Contributions of Young Researchers. Proceedings of the 9th International Conference of Doctoral Students and Young Researchers

No. 7 - December 2019

Editura Universității din Oradea este acreditată de CNCSIS, cod 149 / Oradea University Press is accredited by Romanian National Council for Research in Higher Education, code 149

ISBN 978-606-10-2076-8

ISSN 2344 – 6617 (print)

ISSN 2601 – 1840 (online)

ISSN-L 2344 – 6617

**UNIVERSITY OF ORADEA
FACULTY OF ECONOMIC SCIENCES
DOCTORAL SCHOOL OF ECONOMIC SCIENCES**

**Emerging Markets Economics and Business.
Contributions of Young Researchers**

***Proceedings of the 10th International Conference
of Doctoral Students and Young Researchers***

No. 7 - December 2019

Editor-in-Chief: Prof.Dr.habil. Alina Badulescu

**Oradea University Press
2019**



Scientific Board:

Prof. Dr. Dongheng Hao – Shijiazhuang University of Economics, China
Prof. Dr. Dezhi Liu – Shijiazhuang University of Economics, China
Prof. Dr. Laura Mariana Cismaș – West University of Timișoara, Romania
Prof. Dr. Nicolae Bibu – West University of Timișoara, Romania
Prof. Dr. habil. Alina Bădulescu – University of Oradea, Romania
Prof. Dr. habil. Daniel Bădulescu – University of Oradea, Romania
Prof. Dr. Mihai Berinde – University of Oradea, Romania
Prof. Dr. habil. Olimpia Ban – University of Oradea, Romania
Prof. Dr. habil. Diana Sabău-Popa – University of Oradea, Romania
Prof. Dr. habil. Maria-Madela Abrudan – University of Oradea, Romania
Associate Prof. Dr. Ioana Meșter – University of Oradea, Romania
Associate Prof. Dr. Dorin Băc – University of Oradea, Romania

International Advisory Board:

Dr. habil. Szabolcs Nagy – University of Miskolc, Hungary
Dr. habil István Kunos – University of Miskolc, Hungary
Dr. Zoltán Szakal – University of Miskolc, Hungary
Dr. Zoltán Muszinski – University of Miskolc, Hungary
Prof. Teodora Georgieva – International Business School from Botevgrad, Bulgaria
Dr. Stela Baltova – International Business School from Botevgrad, Bulgaria
Prof. Sonya Mileva – International Business School from Botevgrad, Bulgaria
Prof. Nikolina Popova – International Business School from Botevgrad, Bulgaria
Assoc. Prof. Daniela Ventsislavova Georgieva – International Business School from Botevgrad, Bulgaria

Reviewers:

Prof. Dr. habil. Alina Bădulescu – University of Oradea, Romania
Prof. Dr. habil. Daniel Bădulescu – University of Oradea, Romania
Prof. Dr. habil. Florica Ștefănescu – University of Oradea, Romania
Prof. Dr. habil. Olimpia Ban – University of Oradea, Romania
Prof. Dr. habil. Maria-Madela Abrudan – University of Oradea, Romania
Prof. Dr. habil. Marcel Ioan Bolos – University of Oradea, Romania
Prof. Dr. habil. Sorin Nicolae Borlea – University of Oradea, Romania
Prof. Dr. Mihai Berinde – University of Oradea, Romania
Prof. Dr. Ioan Dan Morar – University of Oradea, Romania
Prof. Dr. Ioan Gheorghe Țara – University of Oradea, Romania
Prof. Dr. Victoria Bogdan – University of Oradea, Romania
Associate Prof. Dr. Ioana Meșter – University of Oradea, Romania
Associate Prof. Dr. Adrian Florea – University of Oradea, Romania
Associate Prof. Dr. Dorin Băc – University of Oradea, Romania
Associate Prof. Dr. Dorina Popa – University of Oradea, Romania
Assistant Prof. Dr. Diana Perțicaș – University of Oradea, Romania
Assistant Prof. Dr. Mariana Sehleanu – University of Oradea
Assistant Prof. Dr. Ramona Simuț – University of Oradea, Romania
Assistant Prof. Dr. Dana Gherai – University of Oradea, Romania
Assistant Prof. Dr. Luminita Rus – University of Oradea, Romania
Assistant Prof. D. Nicoleta Andreescu – University of Oradea, Romania
Dr. Tomina Săveanu – University of Oradea, Romania
Dr. Roxana Hatos – University of Oradea, Romania

Scientific Assistants:

PhD.s. Elena Știubea – University of Oradea, Romania
PhD.s. Darie Gavriluț – University of Oradea, Romania
PhD.s. Camen Fațadar – University of Oradea, Romania
Ph.D.s. Lidia Vesa – University of Oradea, Romania
Ph.D.s. Ovidiu Guler – University of Oradea, Romania

TABLE OF CONTENTS

PREFACE	11
GENERAL METHODOLOGY FOR THE PROFITABILITY ANALYSIS OF HEAT SUPPLIERS	12
Gábor Béla Süveges, Zoltán Musinszki	12
POSSIBILITIES TO GENERATE SOCIAL INNOVATIONS IN THE CASE OF DISTRICT HEAT SUPPLIERS, COMPARATIVE ANALYSIS BASED ON NATIONAL AND INTERNATIONAL LITERATURE	16
Gábor Béla Süveges	16
ANALYSIS OF LANGUAGE LEARNERS' BEHAVIOUR AT MULTINATIONAL COMPANIES	21
Szilvia Szabó	21
COMPETITION INTENSITY AND INNOVATION PERFORMANCE: INSIGHTS FROM NIGERIA MICROFINANCE SECTOR	26
Chijioko Nwachukwu, Hieu Minh Vu, Chinonye Love Moses	26
HOW INTERESTED ARE PEOPLE IN COLLABORATIVE CONSUMPTION?	30
Elena Ştiubea.....	30
WHAT DO WE REALLY KNOW ABOUT HEALTH TOURISM? – LITERATURE REVIEW AND INSIGHTS FROM A SPA INDUSTRY SURVEY	35
Diana Teodora Trip	35
CORPORATE SOCIAL RESPONSIBILITY AND ITS ROLE IN CREATING SUSTAINABILITY THROUGH EDUCATION	40
Casiana Ilie	40
BUILDING ENTREPRENEURIAL MOMENTUM THROUGH EDUCATIO	45
Carmen Florina Făgădar	45
CREATING PUBLIC VALUE THROUGH CO-PRODUCTION	49
Andrius Puksas	49
MEDICAL EXCUSES AND THE FIGHT AGAINST CORRUPTION: LESSONS FROM ANTI-CORRUPTION AGENCIES IN NIGERIA	53
Okuu Okwuagwu.....	53
ANALYSIS OF THE POCU PROJECT STARTUPPLUS.RO FROM THE POINT OF VIEW OF THE SEGMENTS OF POTENTIAL ENTREPRENEURS IN THE IT FIELD AND THE CREATIVE INDUSTRIES	59
Goncz Jozsef.....	59
DIFFERENT APPROACHES OF TOURISM DESTINATION CONCEPT	63
Ban Olimpia, Faur Monica	63
A THEORETICAL APPROACH REGARDING ENTREPRENEURSHIP AND ITS DETERMINANT FACTORS	68
Victor Deliu.....	68
GENERATIONS Y AND Z RESHAPING LUXURY BRANDS	72

Amadea Agapie, Gabriela Sîrbu	72
DIGITAL MARKETING MODELS – BUILDING EFFECTIVE DIGITAL MARKETING STRATEGIES.....	76
Andreea-Diana Suciu (Vodă)	76
INTERNET OF THINGS: MARKETING OPPORTUNITIES AND CHALLENGES	80
Bogdana Glovațchi	80
DARE YOU SIT IN A STRANGER’S CAR?	84
Levente Lengyel	84
MIGRATION, INNOVATION AND ECONOMIC DEVELOPMENT	88
Elena-Alexandra Sinoi.....	88
THE LINK BETWEEN FINANCIAL INCLUSION AND EDUCATION IN EUROPEAN COUNTRIES	92
Nicoleta Gianina Bostan (Motoașcă).....	92
THE ANALYSIS OF ROMANIAN ECONOMY FROM 1993 TO 2018. A NEW RECESSION?	96
Ionela-Cătălina Zamfir	96
EXTREME WEATHER MEASURES IN ROMANIA – THE IMPLICATIONS IN AGRICULTURE	100
Bolohan Ana-Maria.....	100
A MATHEMATICAL MODEL OF UNEMPLOYMENT	104
Patricia Ardeljan.....	104
LONG-TERM MALE UNEMPLOYMENT IN ROMANIA AND SERBIA	108
Lavinia Stan.....	108
A COURNOT-BERTRAND MODEL WITH DIFFERENTIATED PRODUCTS	113
Ciprian Rusescu.....	113
THE EFFECTIVENESS OF SECONDARY SCHOOLS IN THE CONTEXT OF THE LABOR MARKET	120
Daniela Mališová, Jana Štrangfeldová	120
RESEARCH TRENDS IN MORBIDITY AND MORTALITY IN THE POPULATION USING PANEL DATA	125
Katarzyna Strzała-Osuch, Daniel R. Osuch.....	125
ECONOMIC ANALYSIS OF SOVEREIGN ASSETS: APPLICATION BY COURTS IN DETERMINING SOVEREIGN IMMUNITIES.....	130
Ferdous Rahman	130
DEVELOPMENT OF TRANSPORT AND CRITICAL RAW MATERIALS	135
Beatrix Varga, Kitti Fodor.....	135
INCORPORATING TECHNOLOGICAL DEVELOPMENTS IN TEACHING ECONOMICS	140
Mihaela Moca.....	140
APPLIED MATHEMATICAL DEMOGRAPHY	145

Alexandrina-Florina Teușdea	145
EDUCATION – INVESTMENT IN THE HUMAN CAPITAL.....	148
Ciprian Constantin Pătrăuceanu	148
COORDINATION OF GREEN SUPPLY CHAIN WITH THE HELP OF WHOLESALE PRICING CONTRACT.....	152
Tamas Faludi	152
NEW PUBLIC MANAGEMENT IN FORCE INSTITUTIONS. ELEMENTS OF STRATEGIC APPROACH	157
Casian Catrina, Ioan Petrisor	157
DIGITALIZATION IS AROUND THE CORNER – CONTROLLERS IN THE FOURTH INDUSTRIAL REVOLUTION.....	162
Petronella Doszpoly.....	162
DETECTING BUSINESS CORRUPTION STRATEGIC BEHAVIOURS USING NETWORK ANALYSIS	166
Dana Nedea, Ioan Petrișor	166
THE FOCUS OF TOTAL QUALITY MANAGEMENT ON PRODUCTION ORIENTED ASPECTS RATHER THAN HUMAN RESOURCE MANAGEMENT ELEMENTS....	170
Salma Choulli	170
STUDIES AND PROBLEMS IN THE ECOTOURIST SUPPLY IN WESTERN RHODOPES REGION	174
Dessislava Alexova	174
TRENDS IN THE DEVELOPMENT OF URBAN CULTURAL TOURISM	178
Simona - Violeta Ardelean	178
IMPROVING CROSS-BORDER COOPERATION IN THE FIELD OF TOURISM IN BIHOR COUNTY	182
Gabriela-Elena Csoka.....	182
CERTIFICATION SYSTEMS IN THE LIGHT OF THE NEW STRATEGIES TO DEVELOP ECOTOURISM IN ROMANIA	186
Mirela Mazilu, Loredana Dragomir, Alexandru Dobrescu, Robert Malmare	186
BUSINESS ETHICS AND SOCIAL RESPONSIBILITY OF MULTINATIONALS IN THE RECEIVING ECONOMIES	190
Maria-Ramona Sarbu.....	190
A ROMANIAN APPROACH REGARDING THE CSR THEORIES	194
Nicoleta-Daniela Milu.....	194
CORPORATE GOVERNANCE OF PUBLIC UNDERTAKING.....	199
Dorin Marian Privantu.....	199
INNOVATION ORIENTATION- ISSUES AND OPPORTUNITIES.....	204
Gavriluț Darie.....	204
EDUCATION AS AN ECONOMIC DEVELOPMENT TOOL: INVESTIGATION INTO CURRENT SCHOOL-UNIVERSITY PRACTICES FOR INITIAL TEACHER TRAINING IN MYANMAR.....	208

Khin Khin Thant Sin	208
FACTORS INFLUENCING AGING OF POPULATION.....	212
Hajnalka Barna	212
QUALITY OF LIFE - METHODOLOGICAL CHALLENGES	217
Mihaela Cazacu, Emilia Țițan	217
THE LEGAL AND INSTITUTIONAL FRAMEWORK OF THE ECONOMIC RELATIONS BETWEEN THE EUROPEAN UNION AND THE RUSSIAN FEDERATION.....	221
Livia Cebotari.....	221
SUBJECTIVE WELL- BEING AND HAPPYNESS - DEFINING ELEMENTS OF LIFE QUALITY	227
Ioana Ciorbagiu, Iulia Platona (Eleneș).....	227
INSTITUTIONS AND DIPLOMACY IN MIRCEA MALIȚA’S WORK.....	233
Cosmina-Ioana Drăgan-Codrean, Liana-Eugenia Meșter	233
TAX FRAUD: THEORETICAL GUIDELINES	236
Emil Guiăș, Codruța Mihaela Hăineală.....	236
GDPR PRINCIPLES IN THE EUROPEAN FUNDS CONTEXT	240
Codruța Mihaela Hăineală, Emil Gheorghe Guiăș	240
EUROPEAN UNION’S YOUTH UNEMPLOYMENT RATE – STATISTICAL ANALYSE OVER THE YEARS 2008 TO 2018	244
Dana Emanuela Ichim Somogyi	244
INNOVATION AND COMPETITIVENESS	248
Dan Andrei Marincean	248
INVESTMENT PROTECTION AGREEMENT (IPA) AND VIETNAM-EU FREE TRADE AGREEMENT (EVFTA) OPPORTUNITIES AND CHALLENGES	252
Nghiêm Xuân Khoát, Lê Thị Thoa.....	252
GEOPOLITCS AND THE COUNTRY RISK.....	257
Iulia Platona (Eleneș)	257
BENEFITS OF THE ELECTION PROGRAM TO ENSURE LOCAL DEVELOPMENT OF THE MUNICIPALITY OF ZVOLEN.....	261
Darina Rojíková.....	261
CARTELS AND THE USE OF LENIENCY PROGRAMMES IN THE COMPETITION POLICY	265
Ciprian Scurt.....	265
FACTORS AFFECTING EMOTIONAL BURNOUT OF NURSES	269
Zuzana Skorková, Katarína Remeňová, Nadežda Jankelová	269
CRYPTOCURRENCIES, NEW TAX HEAVENS FOR INTERNATIONAL TAX EVASION	274
Bogdan-Florian Amzuica, Roxana-Adriana Mititelu	274
AUTOMATED VALUATION MODEL FOR RESIDENTIAL REAL ESTATES.....	278

Silviu-Ionuț Băbțan	278
THE ANALYSIS OF STOCK MARKET PERFORMANCE OF PHARMACEUTICAL COMPANIES IN ROMANIA	284
Cătălin-Florin Bărnăuț.....	284
THE INFLUENCE OF REGIONAL GDP ON MAIN PERFORMANCE INDICATORS OF THE COMPANIES FROM NORTH-WEST OF ROMANIA	289
Ioana-Cristina Crăciun (Timofei), Beatrix-Monica Spitzer.....	289
THE THREATS TO THE AUDITOR'S INDEPENDENCE: A THEORETICAL APPROACH	294
Andreea-Claudia Crucean.....	294
THE CONCEPT OF SUSTAINABILITY OF PUBLIC INVESTMENTS. BASIC ELEMENTS AND COMPARISON IN CENTRAL AND EASTERN EUROPE.....	300
Ovidiu – Vasile Guler.....	300
MODELLING FINANCIAL SUSTAINABILITY WITH PERFORMANCE INDICATORS: NPV AND IRR	304
Ovidiu – Vasile Guler.....	304
DO YOU BELIEVE IN PERFORMANCE BETWEEN ERP SYSTEM AND HUMAN CAPITAL IN TERMS OF WORKING TIME?	308
Roxana Igna, Diana Niță, Marius Pantazi	308
THE EVOLUTION OF GOVERNMENT REVENUES FROM ENVIRONMENTAL TAXES IN ROMANIA	312
Alexandra-Maria Lăcătuș (Bele).....	312
PERFORMANCE AUDIT – AN INSTRUMENT TO IMPROVE THE QUALITY OF THE ECONOMIC-FINANCIAL MANAGEMENT OF THE AUDITED PUBLIC ENTITIES IN ROMANIA	316
Réka Lakatos-Fodor	316
HUTNER'S COEFFICIENT. HOW TO DETERMINE FINANCIAL DEPENDENCE AND FINANCIAL APPLICABILITY	320
Claudia-Mioara Pop.....	320
HORIZON 2020 PROGRAMME. FINANCING RESEARCH, DEVELOPMENT AND INNOVATION PROJECTS IN GERMANY, POLAND AND ROMANIA.	324
Beatrix - Monica Spitzer, Ioana - Cristina Crăciun (Timofei).....	324
ELEMENTS OF FINANCIAL DECISION PROCESS IN TECHNOLOGY TRANSFER ENTITIES.....	328
Alina Baba.....	328
THE IMPORTANCE OF CAPITAL MARKETS FOR ECONOMIC GROWTH WITH EMPHASIS ON THE ROMANIAN FUTURE MARKET STATUS AS SECONDARY EMERGING MARKET	332
Maria-Anca Craiu.....	332
MACROECONOMIC VARIABLES IN KEYNES CROSS	336
Cristina-Dana Driha, Aniko Kuntz.....	336

ECONOMIC AND SOCIAL IMPLICATIONS OF TAX EVASION	340
Ioan Feher.....	340
CONCEPTUAL ASPECTS THAT LIE AT THE BASIS OF COMPANY SOCIAL RESPONSIBILITY	344
Roxana Florina Glăvan.....	344
EQUITY POLICY AND THE VALUE OF THE ECONOMICAL ENTITY	348
Roxana Florina Glăvan.....	348
SPECIFIC INDICATORS IN THE FINANCIAL PERFORMANCE ANALYSIS OF THE PUBLIC UTILITY SERVICES	352
Aniko Kuntz, Cristina Driha.....	352
STOCHASTIC DEMAND IN INVENTORY MANAGEMENT.....	356
Marius Gelu Paul.....	356
FISCAL RISK WITHIN VAT COLLECTION.....	361
Adriana Elena Porumboiu, Ionela Butu, Raluca Ghetu, Petre Brezeanu.....	361
TRIANGULAR FUZZY INDICATORS OF MODERN PORTFOLIO THEORY	365
Lidia Vesa.....	365

PREFACE

Scientific research in economic sciences currently plays, maybe more than ever, an important role in generating solutions and models of economic and social development. Moreover, in the contemporary world, development is inconceivable in the absence of sustained research and development activities. Undoubtedly, scientific research must be conducted primarily in higher education institutions, in academic and research laboratories.

In this context, the scientific research of young people - students, master students and, in particular PhD students - acquires special meanings and its promotion is a duty of honour to academics and supervisors at all levels.

Recognizing and understanding all these realities, in the Faculty of Economic Studies and Doctoral School of Economic Sciences at the University of Oradea, there have been encouraged and supported the efforts and steps on the path of doctoral scientific research. Thus, since 2010 there is organized an Annual Doctoral Symposium of PhD students in Economics and related fields, and papers carefully selected after the peer-review process were published in a volume that encompassed the contributions of PhD students in Economics. This year, the Symposium opened its doors and has been organized as an International Conference, in academic partnership with University of Miskolc, Hungary and International Business School in Botevgrad, Bulgaria.

Now, we release the 81 papers selected from the scientific contributions of the PhD students, presented at the 2019 edition of the International Doctoral Conference and selected after the review process. The papers deal with topics related to Microeconomics and Economics of the firm, Entrepreneurship and SMEs, Tourism and services, Macroeconomics, Finance, Business Administration etc.

We release the 7th issue of the journal *Emerging Markets Economics and Business. Proceedings of the 10th Conference of Doctoral Students and Young Researchers* with the belief that young researchers are, by training and audacity, a tank of opinions, viewpoints, and especially solutions and proposals, and aware that they should be encouraged and promoted as to enable them to confirm the hopes of their teachers and supervisors.

Last but not least, special thanks are due the members of the International Advisory Board and of the Scientific Board, to reviewers, to the members of the organizing committee, and to all generous fellows who supported the International Conference of Doctoral Students and Young Researchers, Symposium held on 22nd of November 2019 at the University of Oradea, and thus made possible the release of this volume.

Oradea, December 2019

President of the Conference,
Professor Alina Badulescu

GENERAL METHODOLOGY FOR THE PROFITABILITY ANALYSIS OF HEAT SUPPLIERS

Gábor Béla Süveges, Zoltán Musinszki

Institute of Accounting and Finance, Faculty of Economics; University of Miskolc, Miskolc, Hungary

suveges.gabor@uni-miskolc.hu

stmusiz@uni-miskolc.hu

Abstract: *In Hungary, district heating supplies 15% of the population which accounts for 1.5 million people. This activity is carried out by 89 companies. There are differences in the ownership background, in the technical structure, in the activities carried out and in the number of supplied consumers of district heat suppliers. The current study describes some specificities of the income statement of the Hungarian district heating companies. In the first part of the study, the methodology exploring profitability is described. Then in the second part, the study describes the main features of the income statement of the heating suppliers. Using data derived from the accounts of the Hungarian district heat suppliers and from technical and economic pieces of information, nine years (2009-2017) were analyzed.*

Keywords: District heat supply, District heat producers, District heat suppliers, income statement, profitability

JEL classification: K32

1. Literature review

In accordance with International Accounting Standard (IAS) 1 Presentation of Financial Statements, the elements of the financial statements are as follows: a balance sheet, an income statement, a statement of changes in equity, a cash flow statement, notes. Income statement includes a deduction of the company's profit. It introduces the main factors influencing the generation and modification of the income, the components and the formation of the income. The standard does not prescribe a predefined structure. It defines only possible forms and minimum content (IAS 1, Horngren, Datar and Foster, 2006).

According to Hungarian accounting regulations, profit before tax is the sum of the profit from normal operations and the profit from financial activities. In accordance with international practice, company can define this profit in two ways. The first method focuses on the value of the goods and services produced in the examined period. The profit is the difference between the produced (and wholly or partly sold) goods and services and the operating costs (like material costs, labor costs or depreciation expense) of the given period. The second method focuses on sales. In this case, the result can be derived as follows:

- turnover,
- costs related to the production of the sold product or service (product cost),
- costs related to the operation of the given period, in addition to the above (period cost) (Fenyves et al., 2018).

Income categories that may be taken into consideration when calculating profitability indicators include contribution margin, EBIT or EBITDA. Some bases: revenues, capital,

total balance sheet, a specific group of assets, labor costs, personnel costs, average number of employees, revenue per major markets and per customer (Tóth and Zéman, 2018, Brealey et al., 2011).

One of the most important profit level indicators on turnover is gross profitability, also known as the coverage rate. The contribution margin is the difference between revenue and variable costs. The coverage rate is the ratio of the contribution margin to the revenue. Financial accounting, however, does not group costs based on their relationship with the volume of production. The master schedule and therefore the financial statements does not include variable and constant costs (Musinszki, 2013).

There are, of course, methods and recommendations for decomposing accounting costs into fixed and variable elements. (See, for example, Elijah (1997) or Horngren, Datar and Foster (2006)). The simplest and the roughest method is to consider direct costs as variable, and indirect costs as constant. This is, however, an option only if the company prepares its income statement using expense method. The coverage rate measures the profitability of the supply of the goods or services. A broader picture of the company could be obtained if this indicator was determined by product or major market, but there is no requirement to provide the necessary information in the report.

One of the most widely used profitability indicators, still an innovation of the DuPont Company, was the development of Return on Investment (ROI) and the related indicator system. Pierre du Pont believed that former profitability indicators on sales and costs were not suitable to measure the company's profitability. The indicator developed to support investment decisions can be defined as the ratio of net return to net asset value. There are recommendations (Anthony and Govindarajan, 2009) on what to consider as return (like operating profit or after tax profit) and what to consider as investment (fixed assets or some prescribed elements of fixed assets + current assets), but giving purport to the two categories is basically the sovereign decision of the company (Bozsik, 2010, Brealey et al., 2011, Fenyves et al., 2018, Molnár, 2016).

2. The aim of the empirical research and the applied methodology, results

The aim of the empirical research is to outline two important factors of the performance features of district heating companies in Hungary and to establish future research questions.

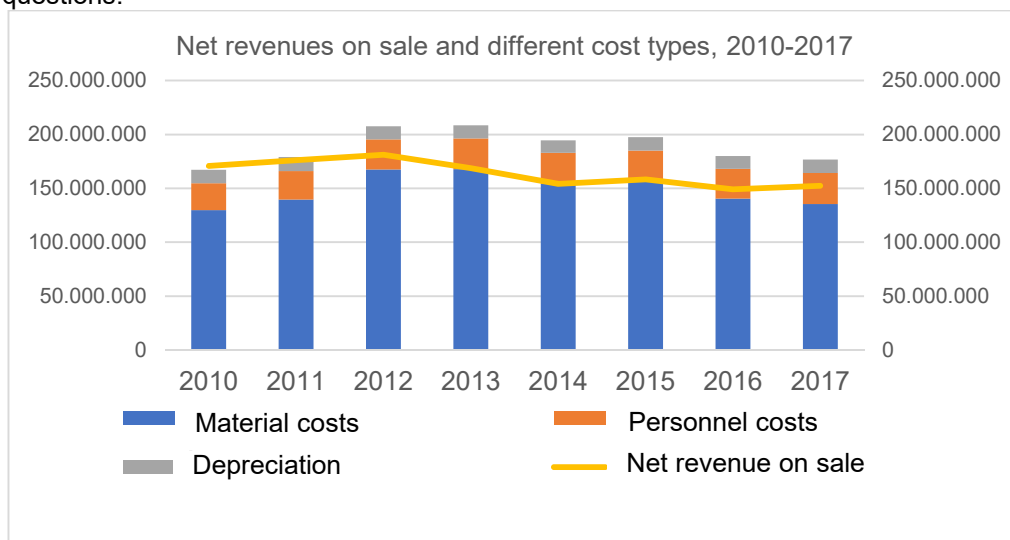


Figure 1: Net revenues on sales and different cost types in the whole sector between 2010 and 2017

Source: Own compilation based on annual report data

The database of the research includes the companies 2009-2017 reports. The tools of the analysis were the Excel program of the Microsoft Office 365 ProPlus package and the SPSS 24 software.

The first striking features of the profitability specificities of the heating sector are illustrated in Figure 1 describing net sales and various costs types at the sector level.

The figure shows that net revenues on sales have not cover material and personnel costs since 2011. The reason for this is that Act XXIX of 2011 on the Amendment of the Laws on Energy froze the retail prices and the prices of institutions treated separately as at 31 March 2011. It is the Minister of National Development who is responsible for setting the prices of heat sold to the public and to institutions treated separately as the highest official price, by taking into account the proposal of the Hungarian Energy and Public Utility Regulatory Authority. The loss of revenue derived from applying official prices is covered by the district heating subsidy. Its amount is fixed at a level that cannot exceed the net cost of providing the public service, i.e. the difference between the costs incurred and the revenue generated by the public service, by taking into account a reasonable return on equity. As for reasonable return, a profit margin was defined, which is 2% of the gross book asset value related to these activities based on the audited accounting unbundling and as at 31 December of the year preceding the year under review of the before tax profit derived from district heat production and district heat supply activities.

The Figure 2 highlights that other revenues represent a significant part of the revenue of the district heating provider. This high proportion is due to district heating subsidy from 2012.

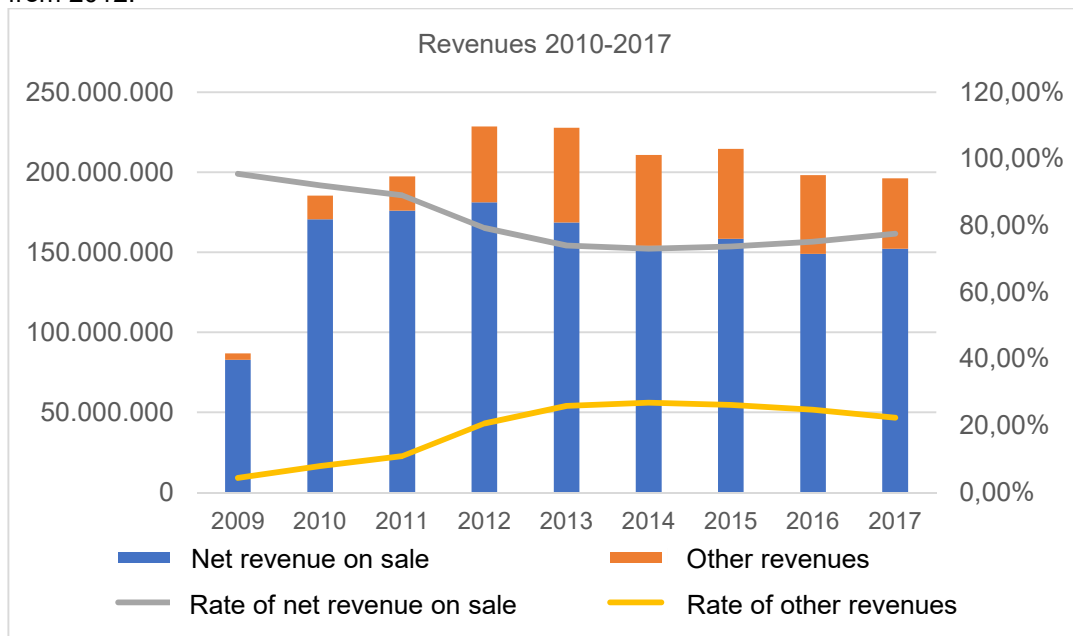


Figure 2: Cumulative values of net revenues on sale and of other revenues and changes of their rate between 2010 and 2017

Source: Own compilation based on annual report data

Examining the structure of the rate of net revenues on sale and of the expenditures of district heating suppliers and the structure of revenues, it can be concluded that profitability of district heating suppliers is strongly influenced by the authority's regulations.

The indicators examined above describe only a slice of the factors influencing the profitability of district heating suppliers. They can, however, provide a pronounced picture of the operation of a highly regulated sector.

3. Conclusions

The purpose of the current research was to present some features of the profitability of heat suppliers. As a first step, literature describing profitability was introduced briefly, followed by the presentation of the empirical research. The two figures forcibly showed a main feature of the district heating sector: being highly regulated which is reflected in the income statement as well. Further research fields were outlined regarding this topic: whether there is a significant difference in the performance of different types of heat providers, whether there is any influence of the ownership background, the performed activities, the size of the company or the geographical location on profitability.

Acknowledgments

„Supported by the ÚNKP-19-3 New National Excellence Program of the Ministry for

Innovation and Technology.”



References

- Anthony, R. N. and Govindarajan, V. (2009) *Menedzsmentkontroll-rendszerek*, Panem, Budapest.
- Bozsik, S. (2010) *Vállalati pénzügyi tervezés*, Miskolci Egyetem, Miskolc.
- Brealey, R., Myers, S. and Allen, F. (2011) *Principles of corporate finance 10th Edition*. McGraw-Hill/Irwin, New York.
- Fenyves, V., Bács, Z., Zéman, Z., Böcskei E. and Tarnóczi, T. (2018) *The Role of the Notes to the financial statements in corporate decision-making*, Corporate ownership and controls Vol. 15, No. 4, pp. 138-148.
- Horngren, C. T., Datar, S. M. and Foster, G. M. (2006) *Cost Accounting: A Managerial Emphasis 12th Edition*, Pearson Prentice Hall, New Jersey.
- Illés, M. (1997) *Vezetői gazdaságtan*, Kossuth Kiadó, Budapest.
- Molnár, V. (2016) Nem termelési folyamatok kontrollja Six Sigma megközelítésben, *Controller Info*, 2016:2, pp. 37-44.
- Musinszki, Z. (2013) Költség-e a költség? Költségek a vezetői számvitelben, *Controller Info*, 2013:2, pp. 2-8.
- Tóth, A. and Zéman, Z. (2018) *Stratégiai pénzügyi controlling és menedzsment*, Akadémia Kiadó, Budapest.
- International Accounting Standard 1 - Presentation of Financial Statements*
- Decree of the Minister of National Development no. 50/2011 (September 30) on determining the price of district heat that is sold to district heating suppliers and the charge of district heating supply provided for household consumers and specially treated institutions.
- Decree of the Minister of National Development no. 51/2011 (September 30) on the district heating subsidy.

POSSIBILITIES TO GENERATE SOCIAL INNOVATIONS IN THE CASE OF DISTRICT HEAT SUPPLIERS, COMPARATIVE ANALYSIS BASED ON NATIONAL AND INTERNATIONAL LITERATURE

Gábor Béla Süveges

Institute of Accounting and Finance, Faculty of Economics; University of Miskolc, Miskolc, Hungary

suveges.gabor@uni-miskolc.hu

Abstract: *In recent years, many researchers displayed interest in the different types of social innovations. In the current research, the author does not aim at creating a new definition, but at examining the possibilities to generate social innovations in the case of district heat suppliers by accepting the previously created definitions. In the case of district heat suppliers, three levels of social innovations can be distinguished and the current research aims at presenting how they have been realized worldwide for almost 140 years. Its methodology includes bibliography research based on seconder research methods and its result is a summary which helps make the heat supplier systems of different generations from the 19th-21st centuries transparent.*

Keywords: District heat supply, District heat producers, District heat suppliers, technological and ecological environment, social innovation

JEL classification: K32

1. Introduction

The roots and the first forms of central heating can be found in the ancient times. In the Roman Empire, the ancestor of the today under floor heating was used to ensure the temperature of the baths, but similar technical implementations were used to supply other buildings as well. In 13 BC Pallio Vitrovius, Roman architect, presented the heating system of the imperial palace.

Like many ancient discoveries, central heating was forgotten or played a minor role in the Middle Ages. However, some records from the 15th century mention the district heating of baths. Subsequently, the technical development of the industrial revolution provided the opportunity for this type of heating to spread.

In the 1790s, waste heat from English factories was transported via underground pipelines to heat public baths and since the middle of the 19th century "apartments heated from long distance" has been spread in several European (London, Paris, Hamburg, Dresden) and American (New York, Boston) cities.

"Social innovation provides new or original solutions to solve the problems of a community with the aim of improving its well-being" (Kocziszky, Veresné and Balaton, 2017). Through reaching the goals to improve the quality of life, heat suppliers implement social innovations by their products (heat and hot water supply), by the applied technologies and by implementing them in consumer-friendly services (Süveges, 2019). It was, however, realized in different ways during the centuries. The current study aims at describing the heating generations of the 19th-21st centuries by analyzing the international literature. The basis of the comparison as the possibilities to generate social innovations are the technical and technological characteristics of district heating.

2. Literature review

Kádárné (2010) explained that in different parts of the world, district heating systems had developed from different motivations and with different technical and technological conditions. The Association of Hungarian District Heat Suppliers classifies the systems of European countries into four groups:

- Northern Europe: Sweden, Finland, Denmark and Iceland, where the role of this heating method is constantly appreciated for its positive effects on the protection of the environment and climate. In these countries, it is also an important instrument of the energy policy and it is continuously improved. Accordingly, the proportion of district heating in apartment heating is extremely high. In Denmark, it is over 60% and up to 98% in some major cities. Denmark is considered to be a model country from several aspects due to the leading-edge technologies (Vanhoudt, Oevelen and Johanson, 2019; Nielsen, 2019) and to the high utilization rate of geothermal energy (Margaryan, Dyrelund and Hansen, 2019).
- Austria and Germany, where gas and district heat suppliers are organized into holding companies owned by local municipalities and the development of heat suppliers is an integral part of urban environmental programs (Kádárné, 2010). The proportion of heat supply out of heating systems is much lower in this group than in the previous one.
- The proportion of district heat in the group including France, Italy, the United Kingdom and certain parts of the Netherlands is low (5%) and there is no great tradition of this heating method. However, the governmental energy strategies of these countries also include district heating projects with low carbon dioxide emission, both for the general public and for other users (Webb and Bush, 2019). In the case of Italy, the use of water with lower temperatures can be observed in the heat supply (Kádárné, 2010), which is considered by many to be a significant way of future development of district heating (Jensen, 2019). The initial low share of district heating, of course, has the advantage of providing opportunity to increase the role of renewable energy sources. In France, for example, the share of this energy source has doubled in five years and is expected to increase to five times compared to its 2013 value by 2030 (Perrin, 2018). Especially in the northern and eastern metropolitan areas of the country, an increase in utilization is expected with the use of further synergies (Boysen, 2018). Ireland has similar conditions, where there is no historical tradition of large-scale district heating, the rate is only 1% like in much warmer countries in Europe like Greece, Cyprus and Malta, however, more and more countries consider district heating to be an opportunity to meet their energy policy and environmental goals (Gartland, 2018).
- Newly acceded Member States of the European Union, all of which have experienced "a period of rapid and forced industrialization" (Kádárné, 2010, p. 23). As these countries have a district heat ratio exceeding the EU-15 average, they are often of lower quality in technical implementation (like thermal insulation) and in technology due to the historical aspects of their construction and have considerable potential for development.

In the European Union, on average, district heating accounts for about 10% of heating, similarly to the world average, but significant differences can be observed among countries (Werner, 2016).

There are other options of grouping in addition to the above described one. One such research material of relevance, also conducted by Werner (2016) and being part of the

research on the future role of district heating, compared the price levels of European heat suppliers and created the following groups based on prices:

- Countries with high price: Denmark, Slovakia, Germany, Norway and Sweden,
- Countries with low price: Iceland, Bulgaria, Switzerland, Poland and Hungary,
- Countries with high district heating prices compared to the disposable income: Slovakia, Estonia, Latvia, Lithuania. (Interestingly, Hungarian district heating is generally associated with high prices in the mind of the individuals (Németh, 2008), but this statement cannot be justified either in absolute or relative terms based on the research results.)

One of the most frequently mentioned elements in the international literature analyzing district heating is the generation-by-generation comparison of heating systems (Lygnerud, 2019). Several researchers have dealt with this topic, among which the study by Lund, Werner, Wiltshire, Svendsen Thorsen, Hvelplund and Matthiesen (2014) is outstanding. Its main assumption is that district heating and cooling systems will play a major role in the sustainable energy systems in the future, by reaching up to 100% renewable rate. In order to achieve this, however, significant improvements are needed compared to the current situation. The different generations have been characterized by a number of aspects which can be grouped into three groups. The main findings of their study are summarized in the following table.

Table 1: Generations of heating systems and their technical and technological characteristics

	Generations of heating systems			
Evaluation criteria	First generation	Second generation	Third generation	Fourth generation
Period	1880-1930	1930-1980	1980-2020	2020-2050
Heat-conveying	Steam	Mostly pressurized hot water (above 100°C)	Mostly pressurized hot water (below 100 °C)	Low temperature water (30-70°C)
Serviced buildings, needs	Blocks of flats and the buildings of the tertiary sector in cities	Blocks of flats and the buildings of the tertiary sector, typical size is 200-300 kWh/m ²	Blocks of flats and the buildings of the tertiary sector and detached homes, typical size is 200-300 kWh/m ²	Existing buildings with lower heat demand (50-150 kWh/m ²) and small scale (<25 kWh/m ²) new users
Heating in the apartments	Radiators using high temperature water (90°C) or steam	Radiators using high temperature water (90°C)	Radiators using medium temperature water (70° C) and underfloor	Radiators using low temperature water (50° C) and underfloor

			heating	heating
Basis of thermal energy	Carbon	Oil, natural gas	Natural gas, biomass, renewable energy sources	Renewable energy sources

Source: Own compilation based on Lund, Werner, Wiltshire, Svendsen Thorsen, Hvelplund and Matthiesen (2014)

3. Conclusion

In both the United States and European countries, first generation heating systems were based on similar technology, characterized by technically inefficient operation and high network losses. The heat-conveying of the second generation systems was water at temperature of 100°C at high pressure and all systems built from the 1930s used this technology until the 1970s. This was typical of the heating systems of the countries of the Soviet bloc. Construction was characterized by low quality and there was no possibility / need to regulate or change the amount of heat used. Third-generation heating systems including solutions from the late '70s and early '80s are often referred to as "Scandinavian district heating technology" because many of the components used in district heating have been manufactured in the Nordic countries. These systems and technical solutions are used in the former Soviet Union Member States and in Central and Eastern Europe, but the systems currently being built in China, Korea, USA and Canada also belong to this generation.

4. Acknowledgments

This research was supported by project no. EFOP-3.6.2-16-2017-00007, titled Aspects on the development of a smart, sustainable and inclusive society: social, technological, innovation networks in employment and the digital economy. The project has been supported by the European Union, co-financed by the European Social Fund and the budget of Hungary.

References

- Boysen, J. (2018) Supplying to the french district energy market. *HOT|COOL International Magazine on District Heating and Cooling*, 2018(4), pp. 19-21.
- Gartland, D. (2018) District heating: A new low-carbon heat solution for the Irish heat market. *HOT|COOL International Mag. on District Heating and Cooling*, 2018(4), pp. 19-20.
- Jensen, S., (2019) Digitalisation a key level for low-temperature district heating. *HOT|COOL International Magazine on District Heating and Cooling*, 2019(2), pp. 6-8.
- Kádárné Horváth Á. (2010) A távfűtés áralakító tényezőinek vizsgálata a magyarországi távhőszolgáltató vállalatok körében. (PhD-értekezés) Miskolc: Miskolci Egyetem.
- Kocziszky, Gy., Veresné, S.M. and Balaton, K. (2017) A társadalmi innováció vizsgálatának tapasztalatai és fejlesztési lehetőségei. *Vezetéstudomány*, 6-7, pp.15-19.
- Lund, H., Werner, S., Wiltshire, R., Svendsen, S., Thorsen Jan E., Hvelplund, F. and Mathiesen, B. V. (2014) 4th Generation District Heating (4GDH) Integrating smart thermal grids into future sustainable energy systems. *Energy*, 2014(68), pp. 1-11.

- Lygnerud, K. (2019) Can Smart cities heat themselves? *HOT|COOL International Magazine on District Heating and Cooling*, 2019(2), pp. 16-17.
- Margaryan, H., Dyrelund, A. and Hansen, R. (2019) Smart integration of energy and waste water. *HOT|COOL International M. on District Heating and Cooling*, 2019(2), pp. 9-10.
- Németh, G. (2008) *A hazai távhőszolgáltató szektor árképzésének fejlesztése*. (PhD-értekezés) Sopron: Nyugat-Magyarországi Egyetem
- Nielsen, L., (2019) Cool and sustainable with absorption heat pumps. *HOT|COOL International Magazine on District Heating and Cooling*, 2019(2), pp. 13-15.
- Perrin, G. (2018) District Heating in France. *HOT|COOL International Magazine on District Heating and Cooling*, 2018(4), pp. 11-13.
- Süveges G. (2019) The relationship between aims, methods and their financial aspects in the case of social innovations in the field of district heating. *Oradea Journal of Business and Economics IV*. Special Issue pp. 29-38.
- Vanhoudt, D., Oevelen, T., Johansson, C. (2019) New management system for DHC networks. *HOT|COOL International M. on District Heating and Cooling*, 2019(2), pp. 18-21.
- Webb, J. and Bush, R. (2019) Meeting the strategic challenges of UK district heating. *HOT|COOL International Magazine on District Heating and Cooling*, 2019(2), pp. 26-28.
- Werner, S., (2016): *European District Heating Price Series*. ENERGIFORSK.

ANALYSIS OF LANGUAGE LEARNERS' BEHAVIOUR AT MULTINATIONAL COMPANIES

Szilvia Szabó

PhD student, Marketing and Tourism Institute, Faculty of Economics, University of Miskolc, Miskolc, Hungary

szszabo@szabonyelviskola.hu

Abstract. *In our digitalized world, foreign language skills are becoming vital in the life of multinational companies. In addition to traditional teaching methods, online teaching methods play an important role in language teaching. In this paper I make an attempt to compare the perceived effectiveness of online and offline teaching methods. I also aim to understand language learners' behaviour including their motivation, service provider choice, information sources considered in their choice and their willingness to pay. In my paper I also examine the extent to which language learners are supported in everyday company teaching by the Eflow by SZABO online software, which can be used in a flexible form of education. A combined (online and paper-based) survey was conducted among language school students who are using Eflow by SZABO. To analyze data, I used descriptive statistics and factor analysis. I have found that language schools are considered to be the most effective form of language learning, closely followed by Eflow by SZABO. Individual learning is also seen as being more effective than learning in groups. My findings can be utilised by scholars and in the language teaching business too.*

Keywords: online language learning; traditional language learning; consumer behaviour; effectiveness; multinational company; Eflow by SZABO.

JEL classification: M31; Z13.

1. Introduction

Because of their busy schedules and a dearth of acceptable language-learning opportunities, many learners in Hungary find it difficult to sit down and force themselves to learn a second or third language. The opportunity to learn online may facilitate learning, partially alleviating these stumbling blocks and providing motivation on the part of learners. A great many of the populace are in possession of a smartphone, which provides the chance for learning and discovery, and has a radical impact on people's habits and interactions in a multitude of milieus (Nagy, 2017). I have taught at language courses at different multinational companies for a long time. Consequently, it is very important for me to monitor the special demands of this market continuously and to understand these demands in order to be able to react to any change at the right time.

2. Literature Review

Before the current IT explosion, the use of this technology was quite restricted. Now, by contrast, we can see a much more flexible application owing to the proliferation of digital tools, mobile technology, and collaborative systems. The horizons of language acquisition are broadening at a furious pace. Motallebzadeh, K., Ahmadi, F.,

Hosseinnia, M. (2018) analysed teachers' creativity and their teaching effectiveness, and they found that the more creative someone is the more creative they are in language teaching. The study points out that there is a significant difference between female and male teachers with regard to the creativity of their teaching in favour of women.

With the development of the digital world more and more tools are available for online teaching and they are increasingly becoming part of our everyday life. The continuous use of these tools help online teaching opportunities establish themselves naturally and almost invisibly in our daily routine, thus making them generally accepted.

According to a survey by Jabeen and Thomas (2015), the majority of the respondents say that some years ago they preferred learning with a teacher in a classroom to learning on their own in a computer-assisted environment but these preferences have changed to a small extent by now. They investigated the learning trends of students who opt for online language courses and their effectiveness by assessing multiple factors including the use of the latest available technology and the skills that are taught by these online methods. The online teaching of various language skills was examined separately, skill by skill, and the online methods were compared with traditional classroom methods. They concluded that students consider lessons with a teacher more efficient for language learning than the online environment. They concluded that it is necessary to have the teacher' assistance and support for the proper conduct of online speaking activities. This was true some years ago, but with the rapid advancement of technology it can be stated with confidence now that today's and especially the near future's technical facilities can easily make up for the teacher's physical presence in such cases. However, Shishavan and Sadeghi (2009) claim that it is essential to have good and qualified teachers to make the educational system operate efficiently and to improve the quality of learning. According to Ghavifekr and Rosdy (2009) ICT (Information and Communications Technology), technology-based teaching is effective for both teachers and students and one important factor of successful learning is that the teachers are well-equipped and well-prepared in terms of technological tools and facilities. "Paperless" Foreign Language Teaching offers an opportunity for students to acquire the necessary information during foreign language lessons by themselves at skill level. Shishkovskaya, Sokolova and Chernaya (2015) found that one of the main advantages of the „paperless" technique is that it increases the motivation of students in learning a foreign language.

3. Eflow by SZABO

Eflow by SZABO, a fully online application, assists those who set out to develop their language skills independently at multinational companies. The online material was developed for five levels: A1, A2, B1, B2 and C1 in line with the *requirements set by the Common European Framework of Reference for Languages*. It was developed on the basis of detailed and well-structured training courses and teaching experiences. Participants can choose the following skills: Vocabulary, Grammar, English Usage, Reading Comprehension, Writing, Listening Comprehension and Speaking.

4. Methodological Approach

In order to measure the effectiveness of different language learning forms and understand the language learners' consumer behaviour a combined (online and paper-based) survey with a sample of 58 respondents was conducted in 2019. Exclusively, language learners at multinational companies who are currently using the Eflow by

SZABO module were included in the study. All of them were surveyed, but not everybody responded to each question, so the total number of respondents is always indicated if it is less than 58.

In the survey, I used different self-developed constructs to measure different aspects of the language learners' behaviour. The importance of motives, the importance of information sources used in the decision-making process as well as the importance of attributes of the language service provider choice were measured on a five-point importance scale. The perceived effectiveness of the different types of language learning was measured on a five-point effectiveness scale, whereas the development of language skills was measured on a five-point extent scale.

5. Analysis and Results

I found that respondents consider learning languages important. The mean (\bar{x}) was between important and very important on a five-point scale (4.3). They quite like learning languages (\bar{x} =3.8). Respondents are quite motivated to learn foreign languages (\bar{x} =3.8). The primary motive for learning languages is easier communication with others (\bar{x} =4.5), followed by higher income (\bar{x} =3.9) and obtaining a language certificate (\bar{x} =3.8). Obtaining a secondary school qualification (\bar{x} =3.3) and working abroad (\bar{x} =2.7) are the weakest motives to learn foreign languages according to the survey.

As far as the importance of information sources used in the decision-making process of language learning is concerned, friends and acquaintances (\bar{x} =3.5) are found to be the most significant influencing factor, followed by family members (\bar{x} =3.3), the social media (\bar{x} =3.2) and online advertisements (\bar{x} =3.2). Other information sources (\bar{x} =2.6) and flyers (\bar{x} =2.6) are regarded as non-important information sources.

Perceived effectiveness of the service provider (\bar{x} =4.5), services fee (\bar{x} =4.4), and group size (\bar{x} =4.3) are the key to success or failure, being the most important attributes when it comes to choosing a service provider (i.e. a language school or other forms of language learning). Flexibility of the administrative procedures related to language learning (\bar{x} =3.8) and service environment (\bar{x} =3.8) as well as the image, reputation & brand name (\bar{x} =3.7) and the ease of use (webpage/app) (\bar{x} =3.7) are equally fairly important attributes. The service provider's accessibility (\bar{x} =3.6), i.e. the distance from where the potential student resides or works, and parking opportunities are also considered. The design of the language learning website/app (\bar{x} =3.4) is the least important attribute in decision making. It was found that the respondents consider the effectiveness of learning/teaching at a language school as being between effective and absolute effective, the mean was 4.5 on a five-point scale, followed by the score given for the effectiveness of Eflow by SZABO (\bar{x} =4.0), the effectiveness of learning language online (\bar{x} =3.6), and the effectiveness of language teaching in public education (\bar{x} =2.5), which is not considered effective at all by the respondents. With regard to the perceived effectiveness of language learning forms, I found that the respondents consider the individual learning in classrooms (individual offline) to be the most effective form, the mean was 4.0 on a five-point scale. The second most effective learning form was the individual online (\bar{x} =3.5), followed by the traditional classroom groups (\bar{x} =3.4). Language teaching in online groups was seen as the most ineffective form of teaching/learning (\bar{x} =2.6).

I found that the respondents are willing to pay the highest amount for individual online learning (\bar{x} = 3.317 HUF) in the first place, and for classroom individual learning (\bar{x} =3.145 HUF) in the second. They intend to pay significantly less for learning in traditional classroom groups (\bar{x} =2.194 HUF), and the least for learning in online groups

(\bar{x} =1.352 HUF). Having investigated the improvement of language skills by Eflow by SZABO, I found that the respondents are of the opinion that their listening skill was improved the most: the mean was 4.0 on a five-point scale. The software also improved their vocabulary skill (\bar{x} =3.9), speaking skill (\bar{x} =3.9), reading skill (\bar{x} =3.8), and their English usage skill (\bar{x} =3.8). They said that their writing (\bar{x} =3.6) and grammar skills (\bar{x} =3.6) were improved the least by Eflow by SZABO.

The Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO= 0.738) indicates the suitability of the data for further analysis by Kaiser's standard. So does Bartlett's Test of Sphericity (Approx. Chi-Square = 140.265; df=36, Sig.= .000). The Principal Component Analysis initially extracted 16 factors but there were only 3 of the 16 components whose Eigenvalue was at least 1. They explain 69.92% of the total variance. Factor 1 includes the service provider's accessibility (distance, car park), the ease of use of webpage/app, the flexibility of the administrative procedures related to language learning and the service environment, so it is named a Service Soft factor. Design of the service provider's website/app and the perceived effectiveness of the service provider as well as the image/reputation & brand name of the service are substantially loaded on Factor 2. Therefore, it can be concluded that brand name, image, design and the perceived effectiveness of the language service provider are interrelated in the language learners' mind. Factor 3 is made up of the service fee and the group size. It suggests that language learners' willingness to pay and the group size are also connected.

6. Conclusions and Implications

Based on my research results it can be stated that the respondents are quite motivated to learn foreign languages at multinational companies. Having analysed the importance of information sources used in the decision-making process of different forms of language learning, friends and acquaintances are found to be the most significant influencing factor. The effectiveness of the service provider is the most important attribute in choosing a service provider. In comparison with previous times, recognition of the effectiveness of online teaching has become much stronger among language learners. This shows that the tools and methodologies have been improving and digital tools have also been incorporated in language teaching at companies. The other important finding is that companies are open to online teaching insofar as it complements offline teaching to make participants motivated and successful in language learning as much as possible. In other words, the company management supports the development of new technologies and software, which is a long-term condition for staying on the market. It seems from the surveys that methodological preferences are slowly progressing towards realignment, meaning that the respondents consider online learning/teaching almost as effective as face-to-face teaching. At the same time, it is a rather interesting finding that the respondents would be willing to pay more, even if not by much, for online teaching. This confirms that the everyday use of technological tools and the refinement of online solutions are making online language teaching increasingly accepted.

References

Ghavifekr, S. and Rosdy, W.A.W. (2015), "Teaching and Learning with Technology: Effectiveness of ICT Integration in Schools", *International Journal of Research in Education and Science*, Vol. 1 No. 2, p. 175, DOI:10.21890/ijres.23596

- Jabeen, S. S. and Thomas, A. J. (2015): "The effectiveness of Online Language learning", *Proceedings of the World Congress on Engineering and Computer Science 2015 Vol I*, WCECS 2015, October 21-23, 2015, San Francisco, USA, ISSN: 2078-0958 (Print); ISSN: 2078-0966 (Online)
- Motallebzadeh, K., Ahmadi, F. and Hosseinnia, M. (2018), "The relationship between EFL teachers' reflective practices and their teaching effectiveness: A structural equation modeling approach", *Cogent Psychology*, Vol. 5 No. 1, doi.org/10.1080/23311908.2018.1424682.
- Nagy, S. (2017), "The Role Of Country Of Origin In Mobile Phone Choice Of Generation Y And Z". *Journal Of Management And Training For Industries*, 4 (2). pp. 16-29. ISSN 2188-8728, DOI: 10.12792/JMTI.4.2.16
- Shishavan, H. B. and Sadeghi, K. (2009) "Characteristics of an Effective English Language Teacher as Perceived by Iranian Teachers and Learners of English" *English Language Teaching* 2. doi:10.5539/elt.v2n4p130
- Shishkovskaya, J., Sokolova, E. and Chernaya, A. (2015). "Paperless" Foreign Languages Teaching. *Procedia - Social and Behavioral Sciences*. 206. 232-235. 10.1016/j.sbspro.2015.10.014.

COMPETITION INTENSITY AND INNOVATION PERFORMANCE: INSIGHTS FROM NIGERIA MICROFINANCE SECTOR

Chijioke Nwachukwu¹, Hieu Minh Vu², Chinonye Love Moses¹

¹ Department of Business Management, College of Business and Social Sciences, Covenant University, Ota, Ogun State Nigeria.

² Faculty of Commerce and Business Administration, Van Lang University 69/68 Dang Thuy Tram str. W. 13, Binh Thanh Dist., Ho Chi Minh City, Vietnam.

Corresponding author: cesogwa@yahoo.com
chinonye.moses@covenantuniversity.edu.ng
hieuvu2000@gmail.com

Abstract: *In a competitive market, micro finance banks need to develop creative and purposeful ideas to create value for stakeholders. This paper shed light on the relationship between competition intensity and innovation performance. The study uses surveys conducted on microfinance banks operating in Nigeria. Data from 300 respondents suggest that competition intensity significantly influence innovation performance. It was observed that as competition intensifies, microfinance sector innovation performance increases. The authors conclude that microfinance banks should give attention to the nature of competition and its relationship with innovation performance.*

Keywords: competition; intensity; innovation performance; microfinance; Nigeria

JEL classification: L20; M10

1. Introduction

Intense competition has generated a high level of uncertainty among firms in all industries (Gavrea et al., 2011), posing a serious challenge for managers of firms. The presence of many competitors limit growth opportunities. In the context of intense competition, firms can achieve innovation performance by offering new product and services that meet the need of customers. Microfinance banks support the growth of small and medium enterprises (SMEs) which constitute a large proportion of the business sectors in Nigeria (Nwachukwu, 2018). Although, studies have examined the link between the intensity of competitive rivalry and innovation (e.g., Correa and Ornaghi, 2014). Few studies examined innovation performance in microfinance banks in Nigeria (e.g. Nwachukwu, Chládková and Olatunji, 2018). The nature of the relationship between competition intensity and innovation is ambiguous and scare in transition economies (Brodzicki, 2018) and not fully established. This study attempts to address this important gap in the literature. This paper examines the relationship between competition intensity and innovation performance in the microfinance sector in Nigeria.

2. Literature review

Empirically, Correa and Ornaghi (2014) found a positive relationship between competition intensity and innovation in U.S. manufacturing industries. Abazi-Alili, Ramadani, and Gërguri-Rashiti (2016) affirm that pressure from foreign competition has a positive and significant effect on innovation activity in firms. Likewise, using data

from 27 emerging markets, Ghosh, Kato, and Morita (2017) reported that competition intensity reduces firms investment in incremental innovations, which decrease firm's market share. Hashmi (2013) investigated the inverted-U relationship in publicly quoted American and British manufacturing companies. The study found a negative and strong relationship between innovation and competition. We note, however, that an in-depth analysis is lacking in Nigerian firms, especially in the microfinance sector. In light of empirical review, the authors acknowledge that the connection between competition intensity and innovation performance is complex and lacking in the emerging market, particularly in Nigeria.

H1. competition intensity has a significant and positive impact on innovation performance.

3. Methodology

In Nigeria, microfinance banks play a strategic role in enhancing the socio-economic well-being of the poor who are mostly traders and artisans. Central Bank of Nigeria CBN 2016 report suggests that total assets and total deposit liabilities of microfinance banks declined by 5.1 per cent and 6.1 per cent respectively. Additionally, the number of microfinance banks (MFBs) declined to 820 in 2013 and increased to 987 in 2016.

3.1. Methods Sample and procedure

Data were collected from employees of microfinance banks using an online survey. The survey was conducted between July and September 2018. The lists of MFBs were retrieved from CBN online database. 325 participants were conveniently selected from three geopolitical zones in Nigeria. 300 completed questionnaires were found suitable and used in this analysis. Jansen et al. (2006) was adapted to measure competition intensity. Four items that assess the intensity of competition in the market was used. Following Wang (2014) and Nwachukwu et al. (2018), six items were used to assess innovation performance, these questions evaluate the respondent's perception of service, product, and process. Participants expressed their level of agreement on a 5-point scale (from 1=disagree strongly to 5=agree strongly). Cronbach's alpha for competition intensity (0.83), innovation performance (0.87) and the overall scale (0.90) imply that the questionnaire effectively captures the study variables. The KMO and Bartlett's test of sampling adequacy is significant (KMO; 0.868, $P = 0.000 < 0.05$) and above 0.5 (Hair et al., 2010). Descriptive statistics and inferential statistics were used for data analyses. Data were analysed using the statistical package for social sciences (SPSS 25) software.

4. Results

In term of the number of employees, 60(20%) of the MFBs have between 1 to 10 employees, 201 (67%) have between 11- 20 employees, 33 (11%) between 21-30 employees and 6 (2%) have between 31- 40 employees. 12(4%) respondents indicated that their firms have been in the market between 0 and 5 years, 282(94%) between 6 to 10 years, while only 6(2%) respondents indicated that their firms have been in the market between 11years and above.

Table 1: Descriptive and Regression results of Competition Intensity and Innovation Performance (N= 300)

F 186.207

R ²	0.385		
Adj R ²	0.382		
β	0.620		
p-value	0.000		
		Mean	Std.Dev
Competition intensity		3.47	0.54
Innovation performance		4.89	0.84
Durbin Watson:	1.873		
VIF:	1.000		

Source: Authors

The results presented in Table 1, ($\beta = 0.620$, $P = 0.000 < 0.05$) suggest that competition intensity positively and significantly impact innovation performance. Thus, providing support for the study hypothesis. Furthermore, $R^2 = 0.385$, implies that competition intensity account for 38.5% in the variation of microfinance bank innovation performance in Nigeria. Thus, other factors that were not considered in the present study explain 61.5% variation in innovation performance. The variance inflation factor 1.000 is less than 5, which indicates the absence of multicollinearity problem. Additionally, the Durbin-Watson test value of 1.873 indicates that the problem of autocorrelation in the model is unlikely.

4.1. Discussion

This study clarifies the relationship between competition intensity and innovation performance in the microfinance sector. The results suggest competition intensity have a significant influence on innovation performance. The finding is consistent with several previous studies (Correa and Ornaghi, 2014; Abazi-Alili et al., 2016). However, our finding negates the results of (Ghosh et al., 2017; Hashmi, 2013). To cope with intense competition microfinance banks must innovate by creating new products and services and optimising technologies to deliver these products and services to customers. In this context, online banking services such as internet banking and electronic payments is a differentiating factor.

5. Conclusion

This research provides important insights into the nature of the relationship between competition intensity and innovation performance in the emerging market context. The study suggests that competition intensity is a predictor of innovation performance in the microfinance sector in Nigeria. The insights from this study will inform policymakers and managers in the microfinance sector in the emerging economy context. Microfinance banks should pay attention to the activities of competitors as this impact innovation performance. The limitations of this study provides an avenue to consider the concept for future research. The study focused on a single industry; microfinance sector. This limit the generalisability of the results beyond this context. Future studies can examine competition intensity, innovation performance and factors that can mediate or moderate this relationship in other sectors across countries. Nonetheless, this paper adds to the growing debate on competition and innovation in an emerging market context.

References

- Abazi-Alili, H., Ramadani, V., and Gërguri-Rashiti, S. (2016) Innovation and firm-performance correlations: the case of central and southeastern Europe countries. In Ateljević, J. & Trivić, J. (Eds), *Economic development and entrepreneurship in transition economies* (pp. Part II: 147– 168). Cham: Springer International Publishing.
- Brodzicki, T. (2018) 'The intensity of market competition and the innovative performance of firms', *Innovation*, Vol. 21, No. 2, pp. 336-358.
- Correa, J. A., and Ornaghi, C. (2014) 'Competition & innovation: Evidence from US patent and productivity data', *The Journal of Industrial Economics*, Vol. 62, No. 2, pp. 258–285.
- Gavrea, C., Ilies, L. and Stegorean, R. (2011) 'Determinants of organizational performance: The case of Romania', *Management and Marketing*, Vol. 6, No. 2, pp. 285-300.
- Ghosh, A., Kato, T., and Morita, H. (2017) 'Incremental innovation and competitive pressure in the presence of discrete innovation', *Journal of Economic Behaviour and Organization*, Vol.135, pp. 1– 14.
- Hair, J., Black, W., Babin, B., and Anderson, R. (2010). *Multivariate data analysis* 7th ed., Englewood Cliffs: Prentice-Hall.
- Hashmi, A. R. (2013) 'Competition and innovation: the inverted-U relationship revisited', *Review of Economics and Statistics*, Vol. 95, No. 5, pp. 1653–1668.
- Jansen, J. J. P., Van den Bosch, F. A. J., and Volberda, H. W. (2006) 'Exploratory innovation, exploitative innovation, and performance: Effects of organizational antecedents and environmental moderators', *Management Science*, Vol. 52, No.11, pp.1661–1674.
- Nwachukwu, C. (2018). *The Impact of Different Types of Innovations on Customer Satisfaction in Microfinance Bank in Nigeria*. Published MBA Thesis, Jamk University of Applied Sciences, Jyväskylä, Finland
- Nwachukwu, C., Chládková, H and Olatunji, F. (2018) 'Strategy Formulation Process and Innovation Performance Nexus', *International Journal for Quality Research*, Vol. 12, No. 1, pp. 147-164.
- Central Bank Of Nigeria (2016). retrieved from <http://www.cenbank.org/out/2013/ccd/amended%20regulatory%20and%20s>

HOW INTERESTED ARE PEOPLE IN COLLABORATIVE CONSUMPTION?

Elena Știubea

Doctoral School of Economic Sciences, Faculty of Economic Sciences, Oradea, Romania

elena_stiubea@yahoo.com

Abstract: *As the topic of the collaborative economy is relatively new, the paper has its starting point in an overview on the different approaches discussed both in the academic environment and in the media. The paper aims to discuss some of the reasons that cause people to participate in different forms of the sharing economy. We have noticed that the reasons that convince people to be attracted to the idea of sharing are related primarily to the economic benefits offered, but also to the efficiency of their time. Given the overall picture of the motivations that people have towards the new economic model, we will try to present how the collaborative consumption related to the shared accommodation has changed, by age groups, in 2018 compared to 2017. Analyzing we could see that the young population is more attracted to the idea of sharing, than the older population. This is somewhat obvious given that access to the sharing economy requires internet access.*

Keywords: sharing; motivations; economy; efficiency; consumption; Romania

JEL classification: O35

1. Introduction

The attitude of people towards consumption has undergone numerous changes in the last period of time. This fact is due first and foremost to people's growing fears about the major changes facing the environment: depletion of resources, climate change, pollution, the economic crisis of 2008. Secondly, the change in consumption behavior of people it is also due to the desire for social integration (Belk, 2010), as well as for sustainability or ecological consumption, through which economic benefits can be created. All of these competed for people to turn their attention to a new economic alternative, namely the collaborative economy. This type of economy is "based on 'Access to' rather than 'Ownership of' physical and human assets like time, space and skills" (Botsman and Rogers, 2010). More precisely, people replace the ownership of the property with its temporary ownership. The key elements, without which the sharing economy would not have stood, are related to social media and technology development, as well as to the Internet, which allowed the virtual interaction of people (Heinrichs, 2013). The participation of people in the sharing economy, which is actually a social-economic phenomenon, but also technological, is maintained by the development of technologies, the proliferation of collaborative web communities, as well as by the collaborative commerce. Sharing economy is a concept that encompasses several domains and supports sharing of consumption of goods and services through online platforms. These platforms are, in fact, the main means by which the shared consumption is manifested. The activity through these platforms is supported by the reputation that the respective platform has, by certain economic stimuli, by the degree of satisfaction offered to consumers. Competitiveness in economic activities is increasingly based on the idea of sustainability, the quality of the

natural and cultural environment of the destinations and their integration into a local community (Badulescu and Badulescu), which causes people to be increasingly attracted to the idea of sharing consumption.

The sharing economy is known as a new trend, and people have a slightly reluctant behavior towards the new, which causes them to become somewhat skeptical of this economic approach. In addition, the conceptual framework and scope of the sharing economy are not very clearly delimited, compared to the traditional type economy. The legislation in its early stages is another factor that makes people less confident in this model. It can be said, however, that the collaborative economy attracts people on its side, through the benefits it creates, but at the same time makes some of them unbelieving.

2. The motivations that cause people to be attracted to the sharing economy

The motivations that cause people to participate in shared consumption have been studied over time, but there will always be new reasons why a consumer would decide to "share" a particular product, instead of buying it in a traditional property-based service (Lamberton and Rose, 2012). Motivations, of course, may differ from one consumer to another, but we can expect that what we will present are generally valid motivations for consumers.

One of the reasons that attracts people to participate in the sharing economy is the fact that they can manage their financial resources much better, the collaborative economy offering people the tools to benefit from affordable goods and services (Kane, 2016). In addition, it creates public value that is based on the distribution of goods, spaces and instruments, respectively, between people connected by modern methods such as different online platforms, applications, social networks (Bertand et al., 2016). It can be deduced that the sharing economy is competitive when it comes to the measurable economic benefits, while also providing a more efficient use of resources. In fact, it replaces the exclusive ownership of goods with more economic opportunities (Hamari et al., 2013). In addition it folds very well on demand and supply in real time, worldwide (Malhotra and Van Alstyne, 2014). This economic approach aims to reduce different costs, from a monetary point of view, but also from the perspective of coordinating available assets with the costs involved.

In a world where time is a major impediment to different activities, this new sharing phenomenon can be the solution to save time, so people can manage their time much better through the online platforms made available for sharing economy, thus giving them autonomy (Seign and Bogenberger, 2012). This is obviously another motivation that drives people to positively embrace this idea.

A particular aspect of the collaborative economy is the way in which it offers people new opportunities regarding establishing and maintaining social relations. An example of this feature may come from the Airbnb hosting platform. Through this platform, people seeking accommodation in different corners of the world, regardless of the purpose of the trip, can interact much more easily with the locals and live authentic experiences. The user gets to interact directly with other users in the sharing economy, which ultimately makes it easier to establish social connections beyond economic exchanges (Schor and Fitzmaurice, 2014). In addition, visitors can know that place beyond appearances and what they knew about it. Guests are most of the time in direct contact with the hosts, which clearly leads to the creation of a framework in which they can socialize, even managing a local connection with their help. If a person had booked a room at a hotel, it is almost certain that the person would have been alone, but if they choose Airbnb, for example or any other sharing platform, the

connection with the locals will take place. The social experiences are lived in this way, with a much greater and more complex social and spiritual burden, than in the case of the traditional experience.

The desire for novelty, fulfilled through the sharing economy is another reason why people are attracted to this idea. Epistemic benefit refers to the benefit gained from a product's ability to satisfy curiosity, to provide novelty and / or to satisfy a user's desire to know (Sweeney and Soutar, 2001). Of course, there are arguments that will cause people not to get involved in the collaborative consumption, such as the legislation in an incipient phase, the fear of new ideas, the desire for more intimacy, but these will be the subject of future studies.

3. Are Romanians attracted to the idea of sharing economy?

In Romania, the sharing economy made its presence felt later than at world level or even at European Union level. This is mainly due to the mentality that people have regarding property.

Although the particular motivations for which people are attracted to the idea of sharing economy differ not only from one country to another, but also from one individual to another, we can say that the reasons presented above are generally valid for individuals in our country.

Given the motivations of people to participate in shared consumption and the fact that this phenomenon enjoys an increased popularization, we presented the evolution by age categories of the use of accommodation services of sharing economy type. Thus figure 1 shows graphically the changes that occurred in 2018 compared to 2017.

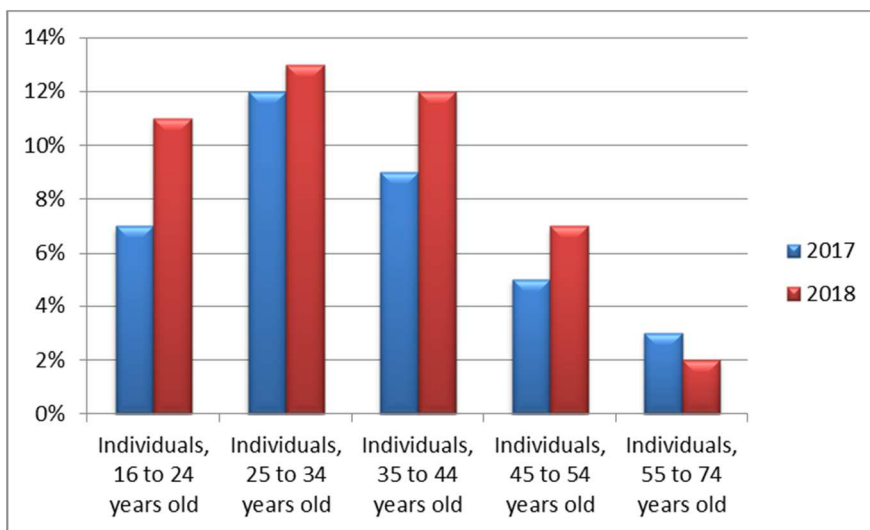


Figure 1: Individuals who have used any website or application to arrange an accommodation from another individual in Romania (percentage of individuals)

Source: Eurostat

Analyzing the figure it can be observed that in four of the five age categories the orientation of the people towards the shared accommodation services increased. At the same time we can say that the young population resonates much better with this new economic model, registering increases from one year to another in the age groups up to 55 years. The fact that in the age range 55 - 74 years, the percentage of those

who use this concept has decreased is due to the mentality and the conception that this population has towards the idea of sharing a good. At the same time, the older population is not so familiar with accessing the Internet, some of them not having a computer or high-performance phone that will allow them access to the new technologies. On the other hand, however, it is a positive thing to record growth in the other age groups, which means that the population of our country begins to become more interested and attracted by the sharing economy and at the same time by the benefits and opportunities offered by it.

4. Conclusions

The evolution of the sharing economy causes people to understand the context of the development of this type of economy. By better understanding of this term, people also find motivations that attract them to actively participate in shared consumption. We showed that the confidence of Romanians in accommodation sharing platforms increased in 2018 compared to 2017, in most age categories, which indicates an attraction and a greater confidence of people on these platforms. Even though in Romania the concept of sharing economy has developed more timidly than in other countries, considering the evolution of the last two years we can say that the attraction towards the new economic phenomenon is slightly increasing. Although there are limitations regarding the legislative framework, and the central and local administrations need time to be able to put in order all the regulations, the sharing economy is in a continuous development and ascent. Some of the reasons described above are influencing people to become more attracted to the idea of shared consumption. Besides these motivations, there are many other motivations and variables that influence people to participate actively in this phenomenon, but they will be the subject of another research.

Sharing economy manifests itself in a lot of areas, for example in transport, but due to the fact that the size of this work would have been much larger, we have limited our study only to accommodation, the other sectors to be subject to future studies.

References

- Badulescu, A. and Badulescu, D. (2012). 'Entrepreneurship and Local Resources' in Leslie, D. (ed) *Tourism Enterprises and the Sustainability Agenda across Europe*, London: Ashgate Publishing, pp. 151-167.
- Belk, R. (2010). Sharing, *The Journal of Consumer Research*, Vol. 36, No. 5, pp. 715-734.
- Bertand, D., Chalon, R., and Yin, C. (2016). Collaborative Systems & Shared Economy (Uberization): Principles & Case Study, *2016 International Conference on Collaboration Technologies and Systems (CTS)*, pp. 57–63.
- Botsman, R. and Rogers, R. (2010). *What's Mine Is Yours: The Rise of Collaborative Consumption*. New York, Harper- Collins.
- Hamari, J., Sjöklint, M. and Ukkonen, A. (2016). The Sharing Economy: Why People Participate in Collaborative Consumption, *Journal of the Association for Information Science and Technology*, Vol. 67, No. 9, pp. 1–19.
- Heinrichs, H. (2013). Sharing Economy: A Potential New Pathway to Sustainability. *GAIA- Ecological Perspectives for Science and Society*, Vol. 22, No. 4, pp. 228-231.
- Kane, G. (2016). Crowd-Based Capitalism? Empowering Entrepreneurs in the Sharing Economy, *MIT Sloan Management Review*.

Lamberton, C.P. and Rose, R.L. (2012). When Is Ours Better Than Mine? A Framework for Understanding and Altering Participation in Commercial Sharing Systems, *Journal of Marketing*, Vol. 76, No. 4, pp. 109–125.

Malhotra, A. and Van Alstyne, M. (2014). The dark side of the sharing economy and how to lighten it, *Communications of the ACM*, Vol. 57, No. 11, pp. 24–27.

Schor, J.B. and Fitzmaurice, C.J. (2014). Collaborating and Connecting: The emergence of the sharing economy. In *Handbook of Research on Sustainable Consumption*, Cheltenham: Edward Elgar Publishing.

Seign, R. and Bogenberger, K. (2012). Prescriptions for the Successful Diffusion of Carsharing with Electric Vehicles, *Conference on Future Automotive Technology Focus Electromobility*, München, pp. 18–19.

Sweeney, J.C. and Soutar G. (2001). Consumer Perceived Value: The Development of a Multiple Item Scale, *Journal of Retailing*, Vol. 77, No. 2, pp.203-220.

WHAT DO WE REALLY KNOW ABOUT HEALTH TOURISM? – LITERATURE REVIEW AND INSIGHTS FROM A SPA INDUSTRY SURVEY

Diana Teodora Trip

Doctoral School of Economic Sciences, University of Oradea

dianateodora.trip@gmail.com

Abstract:

All over the world there is a growing interest in changing the way people care for their health. This new approach is also reflected in tourism. Health tourism is a complex area of study, yet understanding the concept is limited, because there are varying definitions and components ambiguity. Also, academic and professional debates on this subject make it difficult to estimate the real size and growth of health tourism market. This paper aim is to present different approaches that exist in literature on health tourism to a better understanding of the concept. The benefits of having greater consistency in the use of health tourism term are: a well-defined market structure, better marketing targeting strategies and reliable data for avoiding "industry boosterism".

Key words: health tourism, medical tourism, wellness

Jel classification: I10, L83

1. Introduction

According to García-Altés (in Wallibhodome et al., 2019), *health tourism* as a concept is relatively new and it started to be used about two decades ago. However, *health tourism* main principles are rooted back to ancient civilizations all around the world. From the earliest times, people have travelled for healing, disease-protection effects and to restore balance: the Romans travelled to *thermae* - the thermal baths -, pilgrims visited Dead Sea for its healing effects and Asians went to thermal springs for relaxation and socializing (Yeung and Johnston, 2018). Nowadays, reasons for seeking healthcare services in other countries became more complex: long waiting lists in country of residence, higher costs for the same treatment, better technology and more skilled-specialists in destination countries (Connel, 2006) alongside with lower flight prices, worldwide airline routes, communication and information through technology which make it possible for tourists to access healthcare services in other countries, as Lunt (in Hanefeld et al., 2014) added.

There are numerous studies and paper works written about health tourism, that shows a considerable interest for this field, because it is difficult to estimate the real market size and development if there aren't well-defined boundaries, clear components and a universally accepted unique definition. This paper objective is to provide a general overview of academic research to better identify the services that can be included under the umbrella of health tourism.

2. Defining health tourism

At first glance, we can assume the concept *health tourism* is generally easily to be defined. But in reality, there are challenges. Academic literature and industry reports

abound in definitions of health tourism, as there isn't an official international organization responsible for establishing a unique definition (Puczkó et al., 2011).

To a better understanding of health tourism, it's important to know how health is described. World Health Organization (WHO) defined in 1984 *health* as "the extent to which an individual or a group is able to realize aspirations and satisfy needs, and to change or cope with environment. Health is a resource for everyday life, not the objective of living; it is a positive concept, emphasizing social and personal resources as well as physical capabilities" (Smith and Puczko, 2014:4).

Carrera and Bridges (2006:447) define *health tourism* as "the organized travel outside one's local environment for the maintenance, enhancement or restoration of an individual's well-being in mind and body". In Smith and Puczkó's opinion, *health tourism* incorporates "forms of tourism which are centrally focused on physical health, but which also improve mental and spiritual well-being and increase the capacity of individuals to satisfy their own needs and function better in their environment and society" (Mainil et al., 2017:93). Goodrich (2010:228) propose the following definition for health tourism: "the attempt on the part of a tourist facility (e.g. hotel) or destination (e.g. Baden, Switzerland) to attract tourists by deliberately promoting its health care services and facilities, in addition to its regular tourist amenities". Hall (2011:6) suggest *health tourism* is "a commercial phenomenon of industrial society which involves a person traveling overnight away from the normal home environment for the express benefit of maintaining or improving health, and the supply and promotion of facilities and destinations which seek to provide such benefits". According to World Tourism Organization, health tourism as the "umbrella term" for wellness tourism and medical tourism (UNWTO, 2017).

Boundaries between health tourism, medical and wellness tourism are creating sometimes confusion, because Connel (in Padilla-Meléndez and Del-Águila-Obra, 2016:87) mention that "a continuum exists from health (or wellness) tourism involving relaxation exercise and massage, to cosmetic surgery (ranging from dentistry to substantial interventions), operations (such as hip replacements and transplants), to reproductive procedures and even 'death tourism'". Confusion is also caused by the assumption that medical tourism is dedicated to sick people and wellness tourism is for healthy people and that wellness tourists are a totally different market share than medical tourists (Puczkó et al., 2011). But where do we integrate the following examples: if a healthy person chooses a preventive health program recommended by a doctor after a consultation, is it medical tourism or wellness tourism? Furthermore, if a healthy tourist gets a relaxing massage at a medical spa, that person is a wellness or medical tourist?

This literature review highlights overlaps between health tourism components. In consequence, it is imperative to define medical and wellness tourism.

- *Medical tourism* is a growing phenomenon associated with globalization as Lunt and Carrera (in Hanefeld et al., 2014) agree. For Carrera et al. (in Padilla-Meléndez and Del-Águila-Obra, 2016:88), medical tourism is "the act of travelling overseas for treatment and care". Connell (in Padilla-Meléndez and Del-Águila-Obra, 2016:88) suggests that medical tourism is "the phenomena of people travelling from their usual country of residence to another country with the expressed purpose of accessing medical treatment". The most popular services and treatments linked to medical tourism are: fertility, cosmetic surgery, dental, bariatric (Hanefeld, 2014), heart surgery and hip resurfacing (Padilla-Meléndez and Del-Águila-Obra, 2016).

- *Wellness tourism* is defined by Puczkó et al. (2011) as "involving people traveling to a different place to proactively pursue activities that maintain or enhance their personal health and well-being, and who are seeking unique, authentic or

location-based experiences or therapies that are not available at home". The word *wellness* appears for the first time in Oxford Dictionary in the 1650s and it is described as a state of illness or a state of health, according to Global Wellness Institute. In the 1950s, dr. Halbert L. Dunn's book, *High-Level Wellness* define for the first time the term and in 1971 John W. Travis made it famous. The term is also described as a journey associated with the desire to maintain or enhance well-being (Yeung and Johnston, 2018). Going on a trip can sometimes be stressful, due to unhealthy and over-eating, sleep disruption, sedentary lifestyle during holidays and lack of fitness routine, travel stress and excessive drinking (Yeung and Johnston, 2018). Wellness tourism promises to eliminate these negative effects and turn the trip into an opportunity to maintain and improve health (rest and rehabilitation, disease prevention and a better mental state). According to Wellness Tourism Worldwide, the most popular wellness tourism global services are: beauty treatments, sport&fitness services, leisure and recreational spas and spa&wellness resorts. Meantime, there are in each country local therapies that are popular, like Ayurveda, yoga retreats, meditation and wellness rituals (Hoheb, 2011).

3. Spa Industry Survey on Wellness Tourism and Medical Tourism

An online study involving 206 Global Spa Summit members around the world performed for the research report made by Puczkó, Smith, Johnston and Ellis, presented at Global SPA Summit in 2011, asked respondents to define with their own words health tourism (Puczkó et al., 2011). One-third of the respondents made a difference between health, medical and wellness tourism, but the rest of the respondents are confused with the terms. 21% suggested that health tourism is the same as wellness tourism, 20% of the respondents chose a combination between wellness and medical tourism and 20% said it's the same with medical tourism. An interesting fact presented in the research is that two-thirds of survey respondents weren't able to define at all *health tourism* and left the question blank or chose to answer "don't know" (Puczkó et al., 2011).

The aim of the research was to create a "word cloud", the most used words to describe each term (Puczkó et al., 2011): medical tourism: procedures, surgery, health, care, treatments; wellness tourism: health, spa, services, destination, relaxation, treatments, medical, programs; health tourism: wellness, medical, treatments, spa, healthy, improve.

4. Conclusion

Health tourism is declared to be a growing segment of general tourism, however there are differences between statistics made by official statistical offices, like Eurostat and industry reports, like Global Wellness Institute (Mainil et al., 2017). The reason is found in literature review, because there is a high level of confusion and lack of knowledge about health tourism and it's components, medical and wellness tourism.

Due to varying definitions, people working in the industry proved an inability to define these three terms, even though some items from definitions show up in the "word cloud".

The economic consequences can be wrong positioning on the market, ambiguous selling point, generic services and products, not having a clearly defined customer's profile and unreliable statistics.

To better estimate its real market size and development, it is recommended to establish a worldwide accepted definition of health tourism and to better identify the services that can be included under its umbrella.

References

- Carrera, P.M., Bridges, J.F.P. (2006) "Globalization and healthcare: understanding health and medical tourism", *Expert Review of Pharmacoeconomics&Outcomes Research*, Vol. 6, No. 4, pp 447-454, DOI: [10.1586/14737167.6.4.447](https://doi.org/10.1586/14737167.6.4.447) [Accessed 26.10.2019].
- Connel, J. (2005) "Medical tourism: Sea, sun, sand and... surgery", *Science Direct*, Vol. 27, No. 6, pp 1093-1100, DOI: [10.1016/j.tourman.2005.11.005](https://doi.org/10.1016/j.tourman.2005.11.005) [Accessed 26.10.2019].
- Goodrich, J.N. (1994) "Health Tourism: New Positioning Strategy for tourism destinations", *Journal of International Consumer Marketing*, 6:3-4, pp 227-238, [Online], Available: https://doi.org/10.1300/J046v06n03_12 [Accessed 26.10.2019].
- Hall, C. (2011) "Health and medical tourism: Kill or cure for global public health?", *Tourism Reviwe*, Vol. 66(1/2), No. 4-15, DOI: [10.1108/16605371111127198](https://doi.org/10.1108/16605371111127198) [Accessed 26.10.2019].
- Hanefeld, J., Smith, R., Horsfall, D., Lunt, N. (2014) "What do we know about medical tourism? A review of the literature with discuttion of its implications for the UK National Health Service of a Public Health Care System", *Journal of Travel Medicine*, Vol. 21, No. 6, pp 410-417.
- Hoheb, C., Puczko, L. (2011) *4WR: Wellness for Whom, Where and What? Wellness Tourism 2020*, [Online], Available: <https://globalwellnesssummit.com/wp-content/uploads/Industry-Research/Global/2011-wellness-tourism-worldwide-wellness-for-whom.pdf> [Accessed 26.10.2019].
- Mainil, T., Eijgelaar, E., Klijs, J., Nawijn, J., Peeters, P., (2017), *Research for TRAN Committee – Health tourism in the EU: a general investigation*, European Parliament, Policy Department for Structural and Cohesion Policies, Brussels, [Online], Available: [https://www.cstt.nl/userdata/documents/ipol_stu\(2017\)601985_en.pdf](https://www.cstt.nl/userdata/documents/ipol_stu(2017)601985_en.pdf) [26.10.2019].
- Padilla-Meléndez, A., Del-Águila-Obra, A., (2016), "Health Tourism: Conceptual Framework and Insights from the Case of a Spanish Mature Destination", *Tourism&Management Studies*, Vol. 12(1), pp 86-89, DOI: [10.18089/tms.2016.12109](https://doi.org/10.18089/tms.2016.12109) [Accessed 27.10.2019].
- Puczko, L., Smith, M., Johnston, K., Ellis, S. (2011) *Research Report: Global SPA Summit. Wellness Tourism and Medical Tourism: where do spas fit?* , [Online], Available: <https://globalwellnessinstitute.org/wp-content/uploads/2018/06/Wellness-Tourism-and-Medical-Tourism-Report-Final.pdf> [Accessed 26.10.2019].
- Puczko, L., Smith, M. (2014) *Health, Tourism and Hospitality: Spas, Wellness and Medical Travel*, Routledge, London
- UNWTO *Understanding Tourism: Basic Glossary* (2008), [Online], Available: <http://cf.cdn.unwto.org/sites/all/files/docpdf/glossaryenrev.pdf> [Accessed 27.10.2019].
- UNWTO *Tourism Definitions* (2017), [Online], Available: <https://publications.unwto.org/sites/all/files/pdf/9789284420858.pdf>[Accessed 27.10.2019].
- Wallibhodome, S., Meepien, J., Pattaranukul, J., Suratin, T. Saikrajang, C. (2019) *Enhancing Competitiveness of ASEAN SMEs in Health Tourism through Cluster Development and International Quality Standard Adherence*, DOI: [10.13140/RG.2.2.22557.26089](https://doi.org/10.13140/RG.2.2.22557.26089) [Accessed 27.10.2019].

Yeung, O., Johnston, K. (2018) *Global Wellness Economy Monitor* [Online], Available: https://globalwellnessinstitute.org/wp-content/uploads/2019/04/GWIWellnessEconomyMonitor2018_042019.pdf [Accessed 27.10.2019].

Yeung, O., Johnston, K. (2018) *Global Wellness Tourism Economy* [Online], Available: https://globalwellnessinstitute.org/wp-content/uploads/2018/11/GWI_GlobalWellnessTourismEconomyReport.pdf [Accessed 27.10.2019].

CORPORATE SOCIAL RESPONSIBILITY AND ITS ROLE IN CREATING SUSTAINABILITY THROUGH EDUCATION

Casiana ILLE

Doctoral School of Economics, Faculty of Economic Sciences, University of Oradea, Oradea, Romania

casiana.ille@gmail.com

Abstract: *Companies have been more involved than ever in the educational discourse and they have become key-players in addressing the gaps in education. Designing a new innovational power map, corporations adopt different strategies and proceed with the role of orchestrators in the re-arrangement of economical governance. Companies have the important resources and influence to intervene and address the unmet needs in education but although their agenda is inclining toward technological innovation, it has become imperative that the aspects of corporate social responsibility (CSR) converge with the ideals of education for sustainable development. Within the context of CSR for education, corporations should align their agendas to the sustainable development issue. The challenge is to understand the underlying philosophy behind the emergence of social responsibility activities in business practice and to explore how these activities could be refined and aligned to the economic sustainable development thinking.*

Keywords: Social Responsibility, Sustainable Development, Education, CSR Strategy.

JEL classification: A13; A2; I25; M14.

1. Introduction

Global economy has not fully recovered after the crisis and concerns regarding a weak future progress are serious in an era with growing international tensions and anti-globalization movements that seriously impact stability and require a new governance framework and innovational sustainability mindset. Inequalities in the system are deep and discrepancy brought a wave of skepticism and nationalism expressed in the new current of anti-globalization. Companies are investing more in society in their endeavor to realign their economic pursuit to the societal progress. Investments are made in research and innovation now more than ever before, orchestrating new power shifts with great international impact. This impact can be observed especially in the area of education, as Welford (2006) points out, "any discussion about a strategy for education for sustainable development would be incomplete without the role of business". Businesses are already key-players in addressing unmet needs in education. Leading businesses are already devising CSR programs that are actively supporting education across many contexts (Camilleri, 2016).

CSR is currently receiving a good deal of attention, both in terms of academic research and business practice (Taneja et al. 2011) but the expectations on the responsibilities held by businesses and corporations for the societies in which they operate have changed (Cramer and Loeber 2007). The role of corporations has increasingly expanded and firms have started to assume responsibilities that were previously regarded as governmental activities (Scherer and Palazzo, 2008). Many economists are critical when it comes to analyzing this issue, due to the fact that these activities do

not comply to the initial economic role of the business in society as described by the theory of the firm (Scherer and Palazzo, 2011) and actually it goes beyond the societal expectations and understanding of corporate responsibility (Whetten et al., 2002). Many companies are increasingly organizing CSR activities that create both business and social value (Porter and Kramer, 2011) and this is now leading to a new meaning than the classical view of CSR that was simply limited to philanthropy and then shifted to business-society relation with regards to the activities conducted by the company to solve societal problems (Ismail, 2009). Nowadays CSR is a concept that defines business' interest in its customers, shareholders, employees, suppliers and communities including their environment in the light of sustainable development. It encompasses all the strategies the company displays in order to be ethical and deliver social value in a sustainable manner. This is a conceptual paper and its main purpose is to study the role companies have in creating sustainable development for the society and implicitly, for themselves and to understand the need of CSR toward education.

2. CSR incentives in education

The issue of CSR has been discussed and defined by several authors, one of the first authors to define it was Howard R. Bowen (1953) as *"a commitment of entrepreneurs to seek strategies to make such decisions or carry out such activities which are desirable in terms of goals and values to our society"*. A more recent definition is given by Holme and Watts (2000) as *"the commitment of business to contribute to sustainable economic development, working with employees, their families, the local community and society at large to improve their quality of life"*. Each of the definitions we would cite here bring us to the conclusion that CSR has well determined impact areas consisting of *economy, society and environment*. In the economic area, businesses should focus on improving processes for economic development and minimizing economic impacts and from a societal point of view, they should be aiming on improving the quality of life (Radoslav, 2017).

No country can achieve sustainable economic development without substantial investment in human capital (Ozturk, 2001). Businesses have a long record of involvement in education, especially within formal school systems (Cuban, 2004) and it has been acknowledged that it is in the businesses' best interest to create and maintain good relationships with governments, trade unions and society (Camilleri, 2016), although rarely businesses and governments cooperate in an effective manner and in meaningful ways when it comes to education. The opportunities that come from this cooperation could be a win-win game for both companies and governments and the outcomes would have a positive impact on regional social and economic development. Building these relationships could result in reducing unemployment and addressing competitiveness issues (Schwartz and Gibb, 1999) and seen from a strategic managerial perspective, it could enhance corporate financial performance (Tang et al., 2012) and resolve their long-term workforce demand.

Recent research has stressed out that the most successful CSR strategy is to align company's social and environmental activities with its business purpose and values (Porter and Kramer, 2011), therefore businesses have adopted a targeted approach by focusing on areas that have a direct correlation to their business goals (Deshmukh, 2017). Responsible actions have the power to reconsider the organizations' purpose and its values toward society. Camilleri (2016) states that the first step towards developing a CSR mentality is to re-define the principles of the company and this should be taken in account when designing the CSR strategy toward education.

3. “Educreating” the economy

Education has a major role in determining the outcome of all three components that define sustainability and it is a pillar for each of these areas. CSR through education can impact the economy, the society and the environment.

When creating the CSR strategy, often companies forget that this is a win-win game and tend to focus only on building for its own needs, disregarding that long-term society needs have a common ground with long-term company needs. Companies should consider value-enhancing CSR activities that align social responsibility with economic sustainable development and it is of high importance that efforts are concentrated in this direction. Investing in society education has important economic ramifications that will bring positive outcomes for the society and a sustained economic growth based on increased productivity. A solid and stable economy will provide the company a fertile ground for development especially considering the current unsustainable approach. In most neoliberal and capitalist economic education discourse, issues as sustainability, social justice, community welfare and intergenerational equity are not addressed because they are considered to be noneconomic (Summers and Smith, 2014). If corporations are really committed to teaching and supporting economic sustainable development, they should re-asses the imperatives of their discourse and reconsider their role in creating the economy not only by doing business, but also by modeling it through society. Due to the fact that the public educational sector needs a boost from the private sector, both should be able to cooperate in order to bring the educational discourse at the same parameters that meet today's society needs.

4. Conclusion

Education is the highway to sustainable development and corporate innovation and involvement in education has been so far defined from a narrow technologic inclined perspective that needs to be aligned to current societal struggles and aiming to a sustainable discourse. The traditional capitalist and neoliberal discourse in education will soon have to be transformed into a more creative approach that will explore new ways to create a common ground for business, society and education. This can be obtained by aligning the principles of sustainable development to the CSR practices and bringing into discussion the imperative issues of the limits of growth, intelligent development and societal sustainability as part of the puzzle that pictures technological innovation.

Although companies have increased their role in education, the efforts are concentrated toward technology and innovation in the pursuit of economic growth. This approach can be perceived as socially irresponsible education toward economic development without the emphasis on the sustainability issue. It provides an unbalanced approach in the long term by providing grounds for future economic, financial and environmental crisis and therefore denies its own purpose: to create value for the community. Therefore, as the education is the backbone of the society, we need to re-evaluate the quality of the education in order to determine the health status of our society. It is self-explanatory the fact that a healthy economy is sustained by a healthy economic education and these two combined are the path for setting and maintaining profitable businesses. The solution for sustainable education is investing proportionately both in technological education and in economic education, because one cannot expect to only nurture one side of the mechanism and expect both to prosper at the same rate. Companies prosper when they help society to prosper.

5. Research Limits and Further Recommendations

The role of this paper was to understand the role of CSR towards education and further research is recommended in order to propose empiric solutions for the exposed gaps and to define the methods companies have the ability to “educrate” the economy by addressing issues as sustainability, social justice, community welfare and intergenerational equity.

References

- Bowen, HR. (1953) *Social responsibilities of the businessman*, New York: Harper & Row.
- Camilleri, M. (2016) "Corporate sustainability and responsibility toward education", *Journal of Global Responsibility*, Vol. 7 No. 1, pp. 56-71.
- Cramer, J., Loeber, A. (2007) "Learning about corporate social responsibility from a sustainable development perspective: A Dutch experiment", Wageningen Academic Publishers, The Netherlands.
- Cuban, L. (2004) *The Blackboard and the Bottom Line: Why Schools Can't be Businesses*, U.S.: Harvard University Press.
- Deshmukh, P. (2017) "Corporate social responsibility and education sector: issues and remedies", *International Journal of Management*, Volume 8, Issue 1, February, pp.137-144.
- Holme, R., Watts, P. (2000) "Corporate social responsibility: making good business sense", *World Business Council for Sustainable Development*, Geneva, Switzerland.
- Ismail, M. (2009) "Corporate social responsibility and its role in community development: an international perspective", *The Journal of International Social Research*, Vol. 2, pp. 200-209.
- Ozturk, I (2001) "The role of education in economic development: a theoretical perspective", *Journal of Rural Development and Administration*, Vol. 33, No. 1, pp. 39-47.
- Porter, M.E., Kramer, M.R. (2011) "Creating shared value", *Harvard Business Review*, pp. 62-77.
- Radoslav J., Jankalová, M. (2017) "The assessment of corporate social responsibility: approaches analysis: *Entrepreneurship and Sustainability Issues*, Vol. 4, pp.441 – 459.
- Scherer, G.A, Palazzo, G. (2008) "Globalization and Corporate Social Responsibility", *Oxford University Press*, pp. 413-431.
- Scherer, G.A, Palazzo, G. (2011) "The new political role of business in a globalized world: A review of a new perspective on CSR and its implications for the firm, governance, and democracy", *Journal of Management Studies*, Vol. 48, Issue 4, pp. 899–931.
- Schwartz, P.,Gibb, B. (1999), *When good companies do bad things*, John Wiley and Sons, New York.
- Taneja, SS., Taneja, P.K, Gupta, R.K. (2011) "Researches in Corporate Social Responsibility: A Review of Shifting Focus, Paradigms, and Methodologies", *Journal of Business Ethics*, Vol. 101, Issue 3, pp. 343-364.
- Summers, J.K., Smith, L.M. (2014) "The Role of Social and Intergenerational Equity in Making Changes in Human Well-Being Sustainable", *AMBIO: A Journal of the Human Environment*, Vol. 43, pp. 718-728, Published online 2014 Jan 9. doi: [10.1007/s13280-013-0483-6](https://doi.org/10.1007/s13280-013-0483-6).

Tang, Z., Hull, E.C., Rothenberg, S. (2012) "How Corporate Social Responsibility Engagement Strategy Moderates the CSR–Financial Performance Relationship", *Journal of Management Studies*, Vol. 49, pp. 1274-1303.

Whetten, D.A, Mackey, A. (2002) A Social Actor Conception of Organizational Identity and Its Implications for the Study of Organizational Reputation", *Business and Society*, Vol. 41, Issue 4, pp. 393-414.

BUILDING ENTREPRENEURIAL MOMENTUM THROUGH EDUCATIO

Carmen Florina Făgădar

Doctoral School of Economic Sciences, University of Oradea, Romania

carmen.fagadar@emanuel.ro

Abstract: *Momentum, a concept borrowed from physics, has always implied dynamism, energy and force. The question we raise in this paper is: can education, a seemingly straightforward, rigid process, bring out the vigour, resourcefulness, and enthusiasm of entrepreneurship? We try to answer this question through a literature review approach to the research, following the red thread of the hypothesis stated. Thus, the research painfully leaves out many interesting research pathways and arguments, which can be pursued on a later date. While navigating around different terms and concepts which to this day lack consensus, we evaluated entrepreneurship education as being impactful and looked at some of the measures taken by institutions (EU) in building and maintaining the entrepreneurial momentum.*

Keywords: entrepreneurship, entrepreneurship education, innovation, momentum, entrepreneur, industrial revolution

JEL classification: L26, I25

1. Introduction

Today, entrepreneurship seems to be an idea that has permeated all industries and altered the economic landscape at a global level. From Schumpeter's take on entrepreneurship as a process of *creative destruction*, when the old, inferior offerings across industries and markets are replaced by new products and new business models, many more researchers credited entrepreneurship with the capability to determine and sustain economic growth (Stam and Stel, 2011: 8; Audretsch, Keilbach and Lehmann, 2006: 60). Entrepreneurship is maintained by Hisrich and O'Kinneide (in Sarri and Zikou, 2014: 50) to be imperative in giving birth to new ideas, in the creation of new ventures, and new jobs which are essential in the process of nurturing the whole economy.

The multifaceted coinage and use of the term *entrepreneurship* reflect the complexity and intricacies of the concept which led to this very day's lack of consensus among scholars regarding its exact meaning. Badulescu and Badulescu (2014: 11) comprised an extensive list of opinions and definitions on *entrepreneurship* and *entrepreneur* which revolve around terms such as innovation, creativity, risk taking, business launching, opportunity, venture, and so on.

In an effort to pinpoint this complex concept, entrepreneurship has been approached from diverse directions: economic, psychologic, sociologic, behavioral (Bădulescu and Bădulescu, 2014: 12), and under the scrutiny of varied, new theories (Saiz-Alvarez and Vaquero, 2017: 9–11).

All this diversity underlines the transdisciplinary character of entrepreneurship, as well as the close connection between the entrepreneurial activity and the entrepreneur's persona as a repository of specific traits and skills, begging the question if an entrepreneurial momentum can actually be built and sustained through education, namely entrepreneurship education (EE).

2. Can Entrepreneurship be Taught With Impact?

The struggle to identify the prerequisites of entrepreneurial activity has led researchers to explore how entrepreneurs are formed: are they born with the right set of skills and tendencies, or, rather they are created through education? Often studies on this perennial question have landed on each side of the argument. Timmons and Spinelli, together with Orford et al. (in Botha, 2006: 48) consider the idea of the entrepreneur being born, a myth, advancing the alternative theory that the entrepreneur can, in fact, be created. An *entrepreneur in the making* learns how to develop that sense and skill of identifying opportunities on the market, develops the entrepreneurial self-confidence and visionary stamina which are vital in new ventures, and acquires the knowledge on how to run and manage a business.

The process of teaching entrepreneurship is, consequently, a process which involves both science and art. The *science* part has to do with teaching the conventional wisdom regarding entrepreneurship, the functional business and management skills, while the *art* is less constrained, more provocative, encompassing the creative and innovative aspects. A large consensus among researchers, as concluded by Botha (2006: 67), is that the art dimension in entrepreneurship education has been largely neglected.

Apart from this issue, other difficulties in entrepreneurship education that have been pointed out (Vanevenhoven, 2013: 467; Botha, 2006: 50) are associated with the way and rhythm students learn, their access to resources, the motivations employed, but also with the methods used by the educators, potential limitations on the diversity of disciplines they master, the resource networks they have access to, and levels of capability possessed. Vanevenhoven (2013) brings into attention an issue he identifies as an evolving teaching challenge, the issue of a more individually-focused approach that is in demand and needs to be provided, at least in part, to any entrepreneur in the making, underlying the fact that there is in the end, no generalized optimal process to be put in place.

Despite these challenges, and even though entrepreneurship education has its own reputable skeptics, of whom we mention Ludwig von Mises and Israel M. Kirzner (in Klein and Bullock, 2006: 13), there are series of studies that report the education variable as significant in fostering entrepreneurial ventures. The largest pool of primary data on which such findings have been rested upon is the Global Entrepreneurship Monitor survey. Looking to GEM data, Singer S. (Entrepreneurship Education Monitor, 2019) makes a note on the close relationship pattern between the educational background and the intensity of the entrepreneurial activity, as measured by the TEA index - Total Entrepreneurial Early Activity Index. A study of Boston Consulting Group on the impact of EE in Canada's largest business education organization translated its impact through a rate of 45:1, the return to the society being 45 times greater than the dollars used to teach entrepreneurship in schools (Boston Consulting Group, 2011: 9). An EU commissioned study (Curth et al., 2015: 25–26) compiled evidence of EE strategies' impact, identifying the following major areas of impact:

- Impacts on students: 'demystification' on what entrepreneurship is, a larger knowledge and skills base, enhanced intentions on starting a business.
- Impacts on teachers: an increased entrepreneurial engagement, more relevant tools, better support for students' entrepreneurial learning processes.
- Impacts on institutions: higher growth rates and penetration rates of EE practise.

- Impacts on the economy: higher rate of venture creation, increased survival rate among young ventures, a greater likelihood to set up and sustain their own businesses.
- Impacts on the society: an increased number of new businesses in rural areas, advancing of new, relevant policies.

3. Pushing for the Momentum

For such a dynamic, impactful, and multidisciplinary issue as entrepreneurship is, we cannot over rely on teaching entrepreneurship as a process, confining it to a linear and predictable procedure. On the contrary, its inculcation should be thought and planned out in an entrepreneurial way, considering the versatile landscape of EE. In building up the momentum, European Commission (EC) has assumed an active role. EE has long been a policy priority at EU level, captioned in a series of documents and policies, such as Key Competences Framework for Lifelong Learning 2020, The Small Business Act, Rethinking Education Communication, the New Skills Agenda, and Entrepreneurship Action Plan. These documents identified *sense of initiative and entrepreneurship* as a key, transversal competence that every citizen needs for personal fulfilment and development, active citizenship, social inclusion and employment in the knowledge society. The EU grassroots vision for both career development and entrepreneurship education is encompassed in a short EC documented recommendation: *all young people should have a practical entrepreneurial experience before leaving school*. A number of initiatives and projects have been aligned under this banner, being driven by a vivacious ecosystem of stakeholders and partnerships, as pictured in Figure 1.

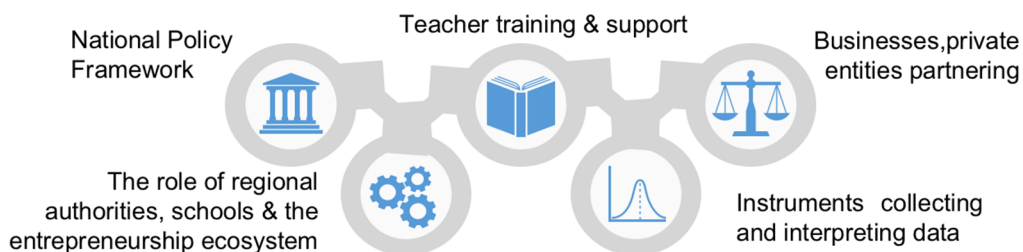


Figure 1: Entrepreneurship Education Ecosystem

Source: adapted from The European Entrepreneurship Education Network

Even with a stellar implementation of such an ecosystem, the future brings new challenges to be addressed, new frontiers to be conquered as paradigms shift in what has been called *the fourth industrial revolution*. Paving the way, educators will have to accommodate their pedagogies to a value creation education, as defined by Lackeus (in Entrepreneurship Education Monitor, 2019). An education infused with the new industrial revolution paradigm will require innovation, agility, resilience, a human-centric approach to progress.

4. Conclusion

As the paper unfolded, the answer to the question implied in the title - Can education contribute to the building of the entrepreneurial momentum? - has become obvious. The future belongs to the educators, whose role in fostering entrepreneurial thoughts, intentions, acquiring knowledge, skills, and launching business ventures, will be paramount. Although the research on entrepreneurship education has its limits, with many directions that still need to be explored, frameworks to be tested, hypotheses checked, the impetus of the entrepreneurial activity is sustained by cohorts of educators, business people, NGOs, authorities, and institutions gathered around a common understanding of EE's value. Entrepreneurship education of the future will need to employ entrepreneurial pedagogy methods while maintaining an individual focus and must embrace the shifts in technology, automation, information of the fourth industrial revolution while retaining a human-centered approach to value creation. The entrepreneurial mindset and skills pool need to be assembled now, as resistance will be futile or extremely damaging when *its time comes*.

References

- Audretsch, D.B., Keilbach, M.C. and Lehmann, E. (2006) *Entrepreneurship and Economic Growth*, Oxford University Press.
- Bădulescu, D. and Bădulescu, A. (2014) *Antreprenoriatul: cum, cine, când?*, Cluj-Napoca: Presa Universitară Clujeană.
- Boston Consulting Group (2011) *Assessing Junior Achievement of Canada's Value Creation*. [online] p.14. Available at: <<https://www.jacanada.org/sites/default/files/BCGReport.pdf>> [Accessed 5 Nov. 2019].
- Botha, M. (2006) *Measuring the Effectiveness of the Women Entrepreneurship Programme, as a Training Intervention, on Potential, Start-up and Established Women Entrepreneurs in South Africa*. University of Pretoria.
- European Commission, Directorate-General for Internal Market, I., Entrepreneurship and SMEs (2015) "Entrepreneurship education, a road to success a compilation of evidence on the impact of entrepreneurship education strategies and measures". Luxembourg: Publications Office, DOI [10.2769/408497](https://doi.org/10.2769/408497) [Accessed 1 Nov. 2019]
- European Entrepreneurship Education NETwork (2019) *Entrepreneurship Education Monitor* [online], Available at: <<http://www.ee-hub.eu/monitor/>> [Accessed 5 Nov. 2019].
- Klein, P.G. and Bullock, J.B. (2006) "Can Entrepreneurship Be Taught?", *Journal of Agricultural and Applied Economics*, 38(2), p.19.
- Saiz-Alvarez, J.M. and Vaquero, M.G. (2017) "Entrepreneurship Concept, Theories, and New Approaches" [online], IG Global, Available at: <https://www.researchgate.net/publication/331832739_Entrepreneurship_Concept_Theories_and_New_Approaches> [Accessed 31 Oct. 2019].
- Sarri, A. and Zikou, E. (2014) "Entrepreneurship Education: Why, What, How and When", *Journal of Educational Research Menon*, (3), p.191.
- Stam, E. and Stel, A. van (2011) "Types of Entrepreneurship and Economic Growth", In: A. Szirmai, W. Naudé and M. Goedhuys, eds. *Entrepreneurship, Innovation, and Economic Development*. [online] Oxford University Press. pp.78–95. Available at: <<http://www.oxfordscholarship.com/view/10.1093/acprof:oso/9780199596515.001.0001/acprof-9780199596515-chapter-4>> [Accessed 31 Oct. 2019].
- Vanevenhoven, J. (2013) "Advances and Challenges in Entrepreneurship Education", *Journal of Small Business Management*, [online] 51(3), <https://doi.org/10.1111/jsbm.12043> [Accessed 1 Nov. 2019].

CREATING PUBLIC VALUE THROUGH CO-PRODUCTION

Andrius Puksas

*Faculty of Public Governance, Mykolas Romeris University, Vilnius, Lithuania,
andrius_puksas@mruni.eu*

Abstract: *Public value is what society increasingly demands from public services and their providers. In order to be justified and widely used, public services should have a clear purpose and obvious advantages for more than one person – the end-users should feel the value of services provided. Sometimes this is the reason for users to be more active. Not surprisingly, public value is among the main reasons for individuals to cooperate with providers of public services in creating new or developing already-existing services. However, it is difficult to determine the specific content of public value in co-production and to measure the public value created by co-production.*

Keywords: co-production; cooperation; public value; public services; involvement.

JEL classification: D46; L23; M11.

1. The nature of co-production

There are a number of definitions of co-production. It can be defined as voluntary or involuntary involvement of public service users in any of the design, management, delivery and/or evaluation of public services (Osborne, Radnor and Strokosch, 2016). The co-production process at any of its stages, which are provided below, can involve public authorities, service providers, recipients of services (end-users) and other stakeholders. The involvement of users of public services in one or more co-production processes can cause the transformation of their role by shifting them into the position of service providers.

Bovaird and Loeffler (2012) provided a stage-based classification of co-production distinguishing the following stages: *co-planning*, *co-design*, *co-prioritisation*, *co-financing* and *co-delivery*. The involvement of partners in co-production from the earliest stages can lead not only to possible acceleration of co-production processes, but also to participation in other stages.

Co-production as an expression of cooperation usually appears where the service providers are incapable on their own to satisfy the needs and demands of users. The cooperation between the public sector and current or potential public service users is much needed for the following reasons (Puksas, Gudelis, Raisiene and Gudeliene, 2019):

- Insufficiency of *know-how*;
- Insufficiency of information;
- Insufficiency of human resources;
- Insufficiency of time to achieve the required results without the involvement of potential users;
- Possible benefits of such cooperation.

The contribution of additional subjects allows not only to solve the above mentioned deficiencies, but provides users or group of users reason to feel their contribution in creating public value.

2. Public value theory

Taking into account that co-production aims to create public value it is important to understand the content of such value. Moore (2013) stresses that the primary problem is to recognize the public value. In order to disclose the content of the public value, it is necessary to analyse its separate components:

- the term “public” means that it covers more than one individual (usually, a wide range of entities or even the majority);
- the term “value” means that the recipients should receive some sort of benefit.

Public value and its constituent elements derive from the meaning of the benefit and the answer to the question of whether it is widely shared (the circle of possible beneficiaries assessed). Despite the fact that services provided by public entities are oriented to public value creation, significant research on public value and its conceptualisation started only two decades ago (Moore, 1995). In order to justify the activities of public sector entities, and in order to expect higher profit for private sector entities, it is crucial to take into account the expectations and demands of end-users.

The formation of the theory of public value was influenced by number of different factors. The value itself is not only economic but also philosophical and psychological. The Turkels (2016) aptly described the role of public value theory in public administration. According to them, this theory aims to revitalise the role of publicly-formed values in public administration theory and research (Turkel and Turkel, 2016). The theory of public value seeks to give meaning to all public sector activities by demonstrating that the activities and actions undertaken are aimed at bringing benefit to the majority.

3. The relationship between public value and co-production

Despite the fact that individual issues of the relationship between public value and co-production have received considerable attention in the scientific literature, a systemic approach is missing.

Co-production (involvement of additional actors) brings the following advantages:

- a wider range of actors can provide a solution to a more complex problem;
- co-production shows that processes related to public services are not concentrated in one hand (absence of monopoly);
- co-production may mean that the views and needs of end-users are taken into account;
- the actors understanding the needs of users have contributed to the creation of public value;
- the end-user was given the opportunity to contribute to the co-production of public services.

The combination of consequent advantages leads to trust in the services proposed. In such cases, the psychological and even philosophical aspects, including the perception of services and service providers, are also important.

In shaping public value through co-production, it is also important to pay attention to one problematic issue – balancing values. This challenge becomes more difficult if more than two partners are involved in co-production.

Talbot (2011) and other scholars shapes the public value through the balancing of *public interest*, *procedural interest*, and *self-interest* (see Figure 1).

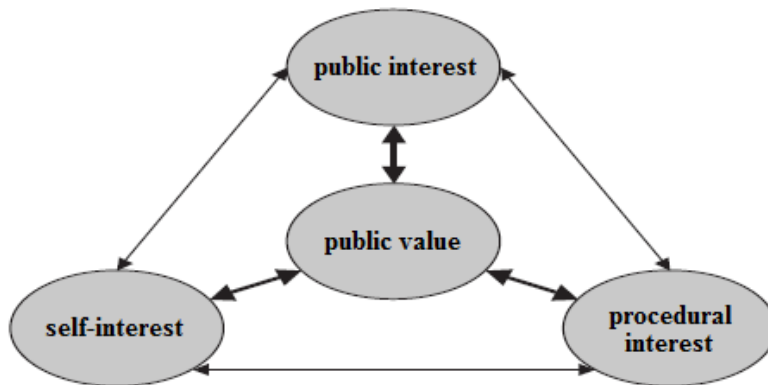


Figure 1: Public value through the balance of interests.
Source: Talbot (2011).

The public value appears at a certain point by finding a balance between egoistic personal interest and public interest. Public value is considered as a position acceptable to most.

Horner and Hutton (2011), relying on Moore (1995), presented the model of formation of public values, distinguishing elements of sanctioning, creation and measurement. This pattern is widespread. Raipa (2016) presented the simplified version of this model (see Figure 2).

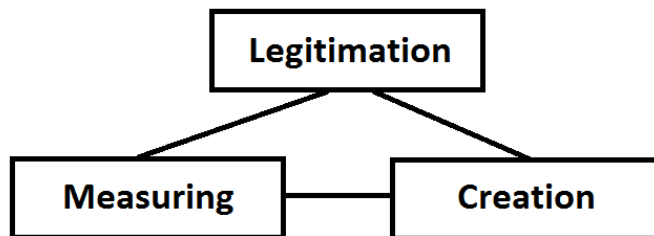


Figure 2: Model of formation of public values.
Source: Raipa (2016).

The model covers the following questions:

- How is the public value understood and justified?
- How is the public value created?
- How is the public value measured?

4. Conclusion

Public services should have a clear purpose and obvious advantages for more than one person. The co-production process aims to involve end-users in any of the design, management, delivery and/or evaluation of public services. Such services should bring value. The purpose of public value is to make sense of all public sector activities. Understanding public value depends on unreliable factors and their dynamics. The public value appears at a certain point by finding a balance between egoistic personal interest and public interest. Value is not only economic but also philosophical and psychological.

References

- Bovaird, T., and Loeffler, E. (2012) "From Engagement to Co-production: The Contribution of Users and Communities to Outcomes and Public Value", *Voluntas: International Journal of Voluntary and Nonprofit Organizations*, Vol. 23, No. 4, pp. 1119-1138.
- Horner, L. and Hutton, W. (2011). 'Public Value, Deliberative Democracy and the Role of Public Managers', in Benington, J. and Moore, M. H. (eds.) *Public Value Theory and Practice*, Basingstoke: Palgrave Macmillan.
- Moore, M. H. (1995) *Creating Public Value: Strategic Management in Government*, Cambridge: Harvard University Press.
- Moore, M. H. (2013) *Recognizing Public Value*, Cambridge: Harvard University Press.
- Osborne, S. P., Radnor, Z., and Stokosch, K. (2016) "Co-Production and the Co-creation of Value in Public Services: A Suitable Case for Treatment?", *Public Management Review*, Vol. 18, No. 5, pp. 639-653.
- Puksas, A., Gudelis, D., Raisiene, A. G., and Gudeliene, N. (2019) "Business, Government, Society and Science Interest in Co-Production by Relative Evaluation Using Google Trends", *Management of organizations: systematic research*, Vol. 81, pp. 55-71.
- Raipā, A. (2016) "The Creation of Public Value in the New Public Governance Projections", *Public Policy and Administration*, Vol. 15, No. 2, pp. 220-234.
- Talbot, C. R. (2011) "Paradoxes and prospects of 'public value'", *Public Money & Management*, Vol. 31, No. 1, pp. 27-34.
- Turkel, G., and Turkel, E. (2016) "Public Value Theory: Reconciling Public Interests, Administrative Autonomy and Efficiency", *Review of Public Administration and Management*, Vol. 4, No. 2, pp. 1-7.

MEDICAL EXCUSES AND THE FIGHT AGAINST CORRUPTION: LESSONS FROM ANTI-CORRUPTION AGENCIES IN NIGERIA

Okuu Okwuagwu¹

Department of Management, Faculty of Business Administration, Abia State University, PMB 2000 Uturu, Abia State, Nigeria

Henry Udeh²

Department of Accounting, Faculty of Business Administration, Abia State University, PMB 2000 Uturu, Abia State, Nigeria

okwuagwu.kalu@abiastateuniversity.edu.ng¹

henejike05@gmail.com²

Abstract

The desire to write on this topic follows the statement by the acting chairman of the Economic and Financial Crimes Commission, EFCC, Ibrahim Mustapha Magu, who on Friday November 1, 2019 disclosed that the Commission will henceforth arrest and prosecute medical practitioners who provide fake medical report to persons facing trial for corruption. He lamented that the spectre of fake medical reports had added to the many frustrations that attend the prosecution of corruption cases in court, as defendants frequently use such bogus reports to delay trial unnecessarily. Nigeria's overburdened judiciary offers seemingly endless opportunities for skilled defence lawyers to secure interminable and sometimes frivolous delays which are inimical to the dispensation of justice. This invariably affects our economic progress. The paper therefore reflects on the nexus between medical excuses due to reported ill-health and the speedy conclusion of corruption cases in Nigeria. It specifically drew lessons from corrupt cases from the anti-corruption agencies in Nigeria with a focus on the EFCC. The study argues that as long as a case of unfounded medical excuses continues in the Nigerian system, it would be difficult for the country to achieve sustainable anti-craft war and practical solutions to contemporary social and economic problems.

Keywords: Anti-corruption; Medical reports; Medical excuses; EFCC; Prosecution; Justice

JEL classification: O17

1. Introduction

Corruption has become a global phenomenon and no country is completely corrupt free. However, corruption is apparent in some countries than others because those countries with less corruption have learnt to manage corruption than others by putting the necessary checks and balances in place and curbing the opportunities of corruption while others have either not figured corruption out or lack the political will to do same. Corruption can be found in almost every facet of the society but it is most imbedded in the public sector of the country which will be my area of focus. At a fundamental level, Nigeria's political system continues to reward rather than punish corruption. Most of the EFCC's cases against nationally prominent political figures have been stalled in the courts for years without the trials even commencing.

Nigeria has some of the worst scores on corruption and governance despite the size of its economy. The situation in Nigeria today has become so embarrassing that

corruption has taken the centre place while integrity, social justice and respect for dignity of labour have been thrown overboard. Sadly, we find public servants who are interested in making quick and easy money by diverting public funds to their pockets. Public officers inflate contracts and divert public funds by various means and tricks conferring on themselves corrupt advantages. These anomalies are just a tip of the iceberg of unchanging corrupt dealings that has continued to question the integrity of Nigeria.

Different policies and anti-corruption laws have been put place in Nigeria while government and international organizations have invested millions of dollars in strengthening anti-corruption agencies as well as raising awareness to change people's behaviour towards corruption with the expectation that it will bring about a reduction in the involvement of public officers in corrupt practices. Despite all these efforts, the fight against corruption seems unsuccessful. This may not be unconnected with the fact that corrupt people are still leading the government, people who fought against corruption are not inspired and those alleged of being corrupt easily find their way into elected offices to punish those who exposed them. Several convicted corrupt individuals have been offered chieftaincy titles while some have been elected into political offices. .

The possibility of excessive worry and other health-related anxiety has been the lot of public servants who suddenly became sick during corruption trial. Today it is no longer strange that high-profile public officials take ill as soon as they are charged with corruption, especially with the anti-corruption campaign of President Muhammadu Buhari and the fear of the Economic and Financial Crimes Commission (EFCC). Bamgboye (2019) noted that some senior lawyers now hide under their beds as a result of the dreaded anti-graft agencies. In fact, virtually all public servants facing trial on one occasion or the other have their trial stalled due to alleged ill-health.

2. The concept of corruption

Corruption can be defined or expressed in a number of ways. In the very narrow sense, it is the abuse of public office for personal gain. It is the misuse of positional power – public or private – to benefit narrow interests rather than the public good. Dictionary definitions of corruption vary; the Webster's dictionary defines corruption as "inducement (as of a political official) by means of improper considerations (as bribery) to commit a violation of duty". Corruption is so widespread that each country has developed its own terminology to describe these practices; egunje in Nigeria, mordida in Mexico, arreglo in Philippines, baksheesh in Egypt, dash in Kenya, pot-de-vin in France, steekpenning in The Netherlands, tangente in Italy. All these phrases or slangs as it were, are used to refer to bribe such as money or a favour, offered or given to a person in a position of trust to influence that person's views or conduct. World Bank sees corruption as the abuse of public office for private gains (World Bank, 1997). Thus a person who engages in nepotism has committed an act of corrupt by putting his family interest over those of the larger society (Gire, 1999).

3. Anti-corruption in the new dispensation

The EFCC is prosecuting some high-profile corruption cases in Nigeria. The government has also implemented or carried through other reforms, like introducing the Bank Verification Number (linking all bank accounts to this unique number in order to reduce unaccounted-for money). The Treasury Single Account has also been introduced. The initiative which is aimed at addressing the rather slow pace of

progress in the Integrated Personnel and Payroll Information System, IPPIS, will also curb the diversion of salaries to personal pockets, amongst other payroll fraud. Another feature of the anti-corruption plank is the whistle-blower policy, which entitles whistle-blowers to between 2.5 and 5 percent of the amount recovered (This Day 2016).

4. Various attempts to fight corruption in Nigeria

Corruption has been in existence even before the attainment of independence by Nigeria in 1960. Today, it has become a major issue and an embarrassing menace. In the comity of Nations, Nigeria occupied the second most corrupt nation in the world in 2000, 2001 and 2002. This was as a result of several failed attempts to fight corruption. There are a number of anti-corruption reforms of the Nigerian government such as Operation Purge the Nation, the Public Complaints Commission (PCC) otherwise known as the Nigerian Ombudsman, the Code of Conduct Bureau (CCB), War against Indiscipline (WAI), Public Accounts Committee (PAC), Independent Corrupt Practices Commission (ICPC) and the Economic and Financial Crimes Commission (EFCC).

5. The Economic and Financial Crimes Commission (EFCC): Three years after the establishment of Independent Corrupt Practices Commission (ICPC), the Economic and Financial Crime Commission (EFCC) was established as a law enforcement agency that investigates financial crimes such as advance fee fraud and money laundering under the EFCC (Establishment) Act of 2004. The Commission is empowered to investigate, prevent and prosecute offenders who engage in money laundering, embezzlement, bribery, looting and any form of corrupt practices, illegal arms deal, smuggling, human trafficking, child labour, illegal oil bunkering, illegal mining, tax evasion, foreign exchange malpractices including counterfeiting of currency, theft of intellectual property and piracy, open market abuse, dumping of toxic wastes, and prohibited goods". The Commission is also responsible for identifying, tracing, freezing, confiscating, or seizing proceeds derived from terrorist activities.

6. Transparency International Corruption Perceptions Index (TICPI)

Transparency International (TI) in its Corruption Perception Index (CPI) 2018 ranked Nigeria in 144th position out of 180 countries as against the 148th position and 136th position ranked in 2017 and 2016 respectively. Bribery has become a major corrupt practice in the public service: bribes to public officials are an embodiment of corruption that threatens democracy, strong independent institutions, civil rights and the economy. The estimated value of bribes paid to public officials by Nigerians was estimated at 400 bn Nigerian naira (about \$1 bn) and within a year, at least 82 million bribes were reportedly paid to public officials in Nigeria. The negative implication of corruption on the Nigerian economy is huge. Public servants divert and embezzle funds allocated for developmental projects, with this corruptive behaviour further threatening the development of Nigeria, its educational and health services and preventing its population from escaping poverty and unemployment (Olugbode, 2019).

7. Fake medical reports and prosecution of corruption cases

The Acting Chairman of the EFCC, Ibrahim Magu, has disclosed that the agency will extend its dragnet to medical doctors who issue fake medical reports to people facing prosecution on alleged economic crimes in the country. Magu disclosed this while

briefing journalists at the Commission's headquarters in Abuja, saying that fake medical reports issued by doctors were also responsible for the prolonging of cases in the courts. According to him, "And this is really the situation. I am telling you. This is exactly what is happening. Now, we will extend our investigation to doctors who connive with criminals and give them fake medical report. I think we have to go after them. He gave an example of a scenario, which was trending on social media recently where a defence counsel argued that his client, who was brought to the court on a stretcher, was going to die if he was not allowed to proceed to India the next day. Magu said the unexpected however happened when the prosecution requested for two minutes from the judge, left the court room and returned with a live snake and before they knew what was happening, the man on the stretcher, fled ahead of every other person. "There is a way they can even get false report from abroad, from the hospital. You know in the hospital, you can just contact them, they will send you whatever you want. So, I think we should also put them on the spot so that this practice of giving fake medical report, we must stop. Yes, it must stop."

8. Notable public servants who suddenly became sick during corruption trials in Nigeria

- **Onnoghen Walter:** The trial of the retired Chief Justice of Nigeria, Walter Onnoghen, was stalled at the Code of Conduct Tribunal, owing to his ill-health. Justice Walter Onnoghen's lead counsel, Adegboyega Awomolo, explained to the tribunal that his absence was occasioned by a tooth-ache and high blood pressure which was said to be around 210/121. He tendered a medical report from medical centre in Abuja where the defendant was said to have been treated. The medical report signed by one Dr Francis Uche, the Medical Director of the hospital recommended among others that Justice Onnoghen must observe 72 hours bed rest for his blood pressure to be properly monitored. Onnoghen was eventually convicted for non-disclosure of his assets.
- **Femi Fani-Kayode:** Former Minister of Aviation, Femi Fani-Kayode once failed to appear in court for his corruption trial because, according to Norrison Quakers (SAN), his counsel, he had been diagnosed and hospitalized with a heart-related ailment. Norrison pleaded with Justice Rilwan Aikawa to adjourn the hearing to enable him furnish the court with medical records proving Fani-Kayode's illness.
- **Diezani Alison-Madueke:** Former Minister of Petroleum Resources, Diezani Alison-Madueke, who is facing multiple corruption cases valued at up to \$6bn is alleged to be in and out hospital in the United Kingdom receiving treatment for cancer-related ailments.
- **Olisa Metuh:** The former Publicity Secretary of the Peoples Democratic Party (PDP) is facing criminal trial before the Federal High Court, Abuja, for allegedly receiving N400 million from the office of the National Security Adviser (NSA) popularly known as "Armstrong trial". In May 2016 Justice Okon Abang refused to grant Metuh leave to travel abroad for medical treatment, and later threatened to revoke Metuh's bail if he continues to jump bail on the excuse of ill-health. "This court shall henceforth not accept any other medical report issued by any medical doctor in Nigeria until the trial is concluded," Abang ruled. Metuh's 'ill-health' assumed dramatic dimensions when he slumped in court in May 2018; he was rushed to the National Hospital in an ambulance by the court's medical team. Subsequently, he continued to appear in court either on a wheelchair or crutches.
- **Jolly Nyame:** The former Taraba State governor, Jolly Nyame was tried and convicted by Justice Adebukola Banjoko of the FCT High Court in Gudu. His trial

was also stalled due to reported ill-health on his part before his eventual conviction. The EFCC docked Nyame for allegedly misappropriating N1.64 billion state funds during his tenure as the governor from 1999 to 2007. He was convicted May 2018 and sentenced to 14 years in prison. He was asked to refund the monies he diverted.

- **Abdurrasheed Maina:** Justice Okon Abang of the Federal High Court, Abuja, on Tuesday, November 5, 2019, adjourned till November 7, the trial of the embattled ex-chairman of the Pension Reform Task Team, Abdurrasheed Maina for alleged fraud and money laundering to the tune of N2.1 billion. The adjournment followed a medical report issued by the Medical Department of the Nigerian Correctional Service (NCS), and endorsed by one Dr. Idowu Ajayi, which stated that the defendant was indisposed and required a bed rest and as such, would not be able to appear in court for day's proceeding but would, however, be available in court as soon as he was fit. The prosecution counsel, M.S Abubakar expressed dissatisfaction with the development, observing that he was not served the medical report. Curiously, the defence counsel also denied knowledge of the report, claiming that the Nigeria Correctional Service denied them access to their client on the basis of their claim of his bad state of health.

9. Conclusion.

The list of notable corrupt political office holders is not limited to the above mentioned cases. Obtaining medical reports on the ground that an office holder is facing prosecution on corruption is a cankerworm that if unchecked would eat deep into and frustrate the efforts of the anti-craft agencies in Nigeria. This is because corruption around the world is believed to be endemic, pervasive and a significant contributor to slow economic growth; it stifles investment and inhibits the provision of public services. It has increased inequality to such an extent that international organizations like the World Bank have identified corruption as 'the single greatest obstacle to economic and social development'.

References

- Aidoghie, P (2019): EFCC to go After Doctors Issuing Fake Medical Reports: <https://www.sunnewsonline.com/efcc-to-go-after-doctors-issuing-fake-medical-reports-magu/>. Retrieved November 7, 2019.
- Bamgboye, A (2019): *How 'Trial Fever' Grips Public Officials:* <https://www.dailytrust.com.ng/how-trial-fever-grips-public-officials.html>. Retrieved November 7, 2019.
- Economic and Financial Crimes Commission (2019): Anti-graft War: EFCC to Establish Diaspora Information Desk: <https://efccnigeria.org/efcc/news/5102-anti-graft-war-efcc-to-establish-diaspora-information-desk>. Retrieved November 6, 2019.
- Economic and Financial Crimes Commission(2019): *Maina's Alleged Ill-health Stalls Trial:* <https://www.premiumtimesng.com/news/top-news/361082-alleged-n100bn-fraud-mainas-ill-health-stalls-trial.html>. Retrieved November 7, 2019.
- Enweremadu, D.U (2012): *Anti-Corruption Campaign in Nigeria (1999-2007): The Politics of a Failed Reform:* African Studies Centre: Leiden. <https://www.ifra-nigeria.org/publications/waposo-series/28-anti-corruption-campaign-in-nigeria-1>. Retrieved November 5, 2019.
- Gire, J.T [1999], "A psychological analysis of corruption in Nigeria", *Journal of Sustainable Development*

- <http://www.Jsdafirica/Jsda/Surnmer1999/articlespdf/ARC%20%20A%20Psvcholo gical%20Analysis%20 of20Con-uption%20in%20Nigeria.pdf>. Retrieved November 7, 2019.
- <http://www1.worldbank.org/publicsector/anticorrupt/corruptn/cor02.htm>
<https://efccnigeria.org/efcc/news/5096-maina-s-alleged-ill-health-stalls-trial>. Retrieved November 7, 2019.
- Magu, I.M (2019): *EFCC to go After Doctors Who Give Fake Medical Reports to Frustrate Corruption*:<https://efccnigeria.org/efcc/news/5082-efcc-to-go-after-doctors-who-give-fake-medical-reports-to-frustrate-corruption-trials>. Retrieved November 7, 2019.
- Nigeria: War on Corruption Hangs in the Balance: Urgent Need to Fix Key Anti-Corruption Agency <https://www.hrw.org/news/2011/08/25/nigeria-war-corruption-hangs-balance>. Retrieved November 7, 2019.
- Olugbode, A (2019): *Naming and Faming as a Strategy for Tackling Corruption in Nigeria*: <https://accountablenow.org/naming-and-faming-as-a-strategy-for-tackling-corruption-in-nigeria/>. Retrieved November 6, 2019.
- Pallavi, R (2017): *Anti-Corruption in Nigeria: A Political Settlements Analysis*. <http://eprints.soas.ac.uk/24854/1/ACE-WorkingPaper002-Nigeria-AntiCorruption-170822.pd>. Retrieved November 7, 2019. SOAS University of London.
- Shiyabade, B,W, Bello, A.M, Oluseyi J. Diekola, O.J & Wahab, Y.B (2017): Assessing the Efficiency and Impact of National Anti-Corruption Institutions in the Control of Corruption in Nigeria Society. *IOSR Journal Of Humanities And Social Science (IOSR-JHSS) Volume 22, Issue 7, Ver. 5. PP 56-64*. www.iosrjournals.org. Retrieved November 7, 2019.
- The Record of Nigeria's Economic and Financial Crimes Commission (2011): <https://www.hrw.org/report/2011/08/25/corruption-trial/record-nigerias-economic-and-financial-crimes-commission>. Retrieved November 7, 2019.
- The World Bank Group (1997): *Helping Countries Combat Corruption: The Role of the World Bank*: <http://www1.worldbank.org/publicsector/anticorrupt/corruptn/cor02.htm>. Retrieved November 7, 2019.
- Transparency International Corruption Perception Index: http://www.transparency.org/policy_research/surveys_indices/qcb/2007. Retrieved November 7, 2019..
- Transparency International Corruption Perceptions Index (TICPI): <https://www.transparency.org/cpi2018>. Retrieved November 7, 2019.
- World Bank Governance Indicators: <http://www.worldbank.org/wbi/governance/pubs/govmatters3.html>. Retrieved November 7, 2019.
- World Bank, *World Development Report (1997): The State in a Changing World*, New York: Oxford University Press, 1997.

ANALYSIS OF THE POCU PROJECT STARTUPPLUS.RO FROM THE POINT OF VIEW OF THE SEGMENTS OF POTENTIAL ENTREPRENEURS IN THE IT FIELD AND THE CREATIVE INDUSTRIES

Gonczi Jozsef

Doctoral School of Economic Sciences, Faculty of Economic Sciences, University of Oradea, Romania

jozsef.gonczi@rove.ro

Abstract: *In this paper the main objective is to present and analyze the differences and the similarities between the entrepreneurial segments from IT and creative industries domains, as it shows in the POCU Startupplus.ro project, between the initial research and the realized project. For this, an analyze was done from the project documentation, to determine the entrepreneurial segments from IT and creative industries domains, and another analyze was done from the project documentation regarding the newly founded companies within the project. There are 48 companies which had the opportunity to start their activities with the project's help.*

Keywords: entrepreneurial segments; IT; creative industries; POCU Startupplus.ro; startup

1. Introduction

One of the funding from European start-up funds was the START UP PLUS financing line run by the Human Capital Operational Program. Government launched this project in 2016 and wants to stimulate the establishment of new companies and job creation through de minimis scheme administrators. Thus, diminishing the documentation of the submission of these projects and favoring the accessibility of these projects, respectively the publicization of these projects.

The main objective of the program for the priority axis is "Increasing employment by supporting non-agricultural enterprises in the urban area", to which the project contributes to achieving the objective, by creating, by the 48 companies established and supported within the project, a minimum of 96 new ones. jobs, and by maintaining them at least until the completion of the project, including in the third stage, of sustainability.

2. Methodology of the research

The purpose of the research is to compare the segments of people with entrepreneurial potential, as suggested by previous studies (P. Gyöngyi and P. László, 2016) with the segments of POCU candidates and the success rates of the business plans submitted.

The research methodology for this paper was mainly secondary research, including the project documentation and the documentation found for the POCU projects, from which a qualitative research was done between the segment types and the submitted business plans.

3. Types of potential entrepreneurs and types of entrepreneurs in POCU Startupplus.ro form IT and Creative industries

Within the project, it was proposed to support the establishment and development of new enterprises in the creative and IT industries. In order to analyze the need and opportunity to support entrepreneurship in the creative and IT industries in the North-West region, we have taken as reference documents the county development strategies and the development plan of the region, valid for the period 2014-2020, after which there were identified segments of potential IT entrepreneurs and Creative Industries.

Based on the information collected and the empirical data available to the sociologists involved in conducting the study (P. Gyöngyi and P. László, 2016), they have built an explanatory model that aims to represent the main defining traits specific to people who have an entrepreneurial potential in the North West. The explanatory model was based on the following variables: the level of schooling, the gender, the typical profession, the degree of integration in the community, the type of capital, specific skills and abilities, the professional stage of the career, the level of risk taking and the central values. Based on this explanatory model, the ideal types (segments) of potential entrepreneurs in the IT field and those of the creative industries were outlined, as follows:

- **ARTISTS AND CRAFTSMAN:** Of this category are usually young and young adults, especially women, with high school or rather higher, high school or college graduates (fine arts, design, music, architecture, sometimes art history), which showcase their talent for creating and marketing a unique / unique product, usually using new technologies (webshop, FB, Instagram) and profile fairs respectively. All in all, we are talking about a creative segment. They take an above average risk (big or very high) because they have no knowledge about entrepreneurship, accounting, marketing, PR, sales, time management.
- **EXPERTS:** People in this category are usually adults and young adults, with good su-period training, dissatisfied with the incomes made at the workplace / or the former workplace (usually in the public sector), in search of possibilities. to increase revenues by enhancing knowledge (accountants, teachers, employees at IT companies). It is an increasingly important segment made up of people who have marketable knowledge for which there is a demand on the market and which offers personally to those who need their services.
- **INNOVATORS:** The innovators are risk takers, usually young people, who identify a special demand and / or a specific niche in the market and, without having a training in the respective field, but for reasons of self-realization, take a risk to put worth an idea. This category includes, for example, parents with young children in or after childcare leave or middle-aged couples / families after moving children from the family, or other cases.
- **EXITERS:** Employees or former employees of middle age, made material, with higher education, very well qualified and who know the logic of entrepreneurship from the position of employees with executive responsibilities in the corporate environment in big cities, professionally dissatisfied or suffering from burn out disease, and who are looking for new opportunities to express themselves. There are people with a higher education and a rich career / professional experience from the status of employee who works in the competitive economy, but they want an independent, and they want to have time control.

- **SERVICE OFFERS:** This is a segment made up of educated people with a keen sense of vocation, open to the cultural needs of the community. There are people of different ages who identify a community request and based on the personal relationships they have to offer these services (wedding organization, community events, shows, developing special service packages).
- **CONSTRAINED:** This segment includes well-educated, but poorly paid people, being motivated by professional self-realization and by building a career considered "successful" in the eyes of the world, with a cultural capital, at the beginning of the road open to all the possibilities that arise. At the beginning of their professional career they do not take a risk, having little to lose, but they are eager for experience. Being a fairly large segment, composed of qualified young people, at the beginning of the road and who want to ensure a decent life, without emigrating, it is the basis of the population of future entrepreneurs.
- **ATYPICS:** This segment is quite heterogeneous from a sociological point of view, it is about people who have experienced a longer period of stay abroad, and accumulating economic capital, for rather personal reasons (the establishment family, with children of school age, with older parents in the country) want to return and start a business, set up a model seen / experienced, but non-existent in Romania. We are talking about younger people, but also older people who want to "reinvent themselves".

Following the development of the project, 300 business plans were submitted, out of which 48 business plans were selected for financing. After analyzing the types of people of those 300 applicants we can say that:

- approximative 30% are in the category of artists and craftsmen but the success in obtaining financing is less represented by this category reaching 20% of the 48 financed entrepreneurs.
- 30% are from the Expert category and their success in financing was proportionally identical to the projects submitted.
- 20% are in the category of Service Providers and their financing success was proportionally higher in the selected projects of about 40%
- 10% are from the innovative category and their success in financing was less represented in the winners with a percentage of about 5%
- 10% are from the category atypical, constrained, exits whose success in the contest of business plans was less represented under 5%.

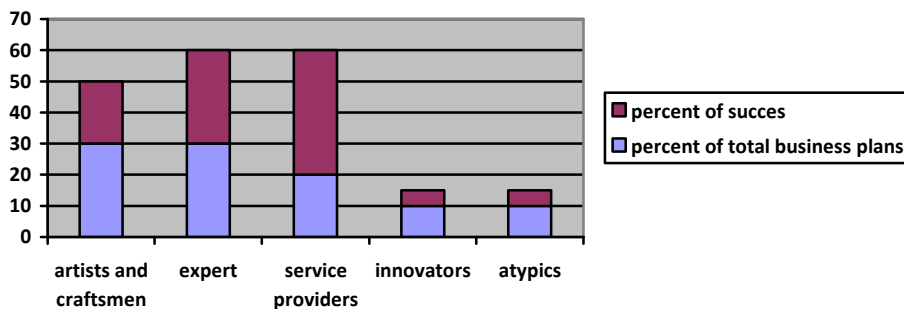


Figure 1: Structure of business plans submitted by segments of candidates and the succes achieved

Source: created by author, based on information collected and the empirical data available to the sociologists involved in conducting the study (P. Gyöngyi and P. László, 2016) and the results of the project STARTUPPLUS.RO.

4. Conclusion

In conclusion, we can establish that people in the atypical, constrained and exited categories need much broader entrepreneurial training focused on developing entrepreneurial skills. Even if POCU has established that the members of the target group are made up of individuals who intend to set up a business (for example, unemployed / inactive / people who have a job), we can conclude that the unemployed, inactive and people with jobs work, do not possess entrepreneurial skills and their degree of failure as an entrepreneur is considerably higher.

References

Ministerul Fondurilor Europene, *Ghidul Solicitantului - Condiții Specifice -România Start Up Plus*

https://www.rndr.ro/documente/AM_POCU_52_prezentare_23_11_2018.pdf,

[Accesed in 23 October 2019].

P. Gyöngyi, P. László, P. (2016) *Profilul potențialilor antreprenori în domeniul industriilor creative și IT-Studiu sociologic*, http://rove.ro/wp-content/uploads/2016/10/Studiu_Potentiali-Antreprenori.pdf, [Accesed in 28 October 2019].

Centru de Cercetare a Relațiilor Interetnice, *Raport de cercetare 1 –Potențialul antreprenorial – oportunități și dificultăți*

https://www.academia.edu/3780912/Poten%C5%A3ialul_antreprenorial_-_oportunit%C4%83%C5%A3i_%C5%9Fi_dificult%C4%83%C5%A3i_Potenci%C3%A1lis_v%C3%A1llalkoz%C3%B3k_-_lehet%C5%91s%C3%A9gek_%C3%A9s_neh%C3%A9zs%C3%A9gek,

[Accesed in 29 October 2019].

Ministerul Fondurilor Europene, *Orientări privind accesarea finanțărilor în cadrul Programului Operațional Capital Uman 2014-2020*, (2016) <http://www.fonduri-ue.ro/images/files/programe/CU/POCU-2014/20.04/ORIENTARI.GENERALE.POCU.pdf>

[Accesed in 23 October 2019].

Toma, Ș. (2011) *Model integrat de dezvoltare antreprenoriala in centrele urbane din trei regiuni*.

DIFFERENT APPROACHES OF TOURISM DESTINATION CONCEPT

Ban Olimpia¹, Faur Monica²

¹ Department of Economics and Business, Faculty of Economic Sciences, University of Oradea, Romania

² Doctoral School of Economic Sciences, Faculty of Economic Sciences, University of Oradea, Romania

olimpiaban2008@gmail.com

faurmonica1984@gmail.com

Abstract: *Tourism destination is one of the most used words in tourism industry and there are many authors that have written about this concept in their works. The importance of this concept is given by the necessity to determine the real reason why tourists choose a destination for spending their holiday. There are many points of view to define the tourism destination concept and to emphasize the most important factors that determine the success of tourism activities. In the past, many researchers studied this concept and some of them stated similar points of view that were influenced by different factors such as: natural resources, cultural heritage, specific services and goods (accommodation, transports, food, entertainment) economic and political situations and advertising. Nowadays, tourism destination concept is used like a multidimensional factor that has a major influence for tourism industry. Also, this concept shows important information about tourists/visitors: needs, wishes, pattern of behavior, production and consumption. The main goal of this article is to offer different approaches about the concept of tourism destination.*

Keywords: Tourism destination, factors, approaches.

1. Introduction

Tourists are people who travel in different areas, regions driven by various goals such as: the need to recover and experience, visiting friends or family. When they decide to spend their holidays or just a few days far from their houses, they always choose a destination. This concept is widely used by the researchers in tourism and stakeholders because it has probably the most important influence in tourism activities. There are different views when we try to define this concept. For example, some authors define tourism destination like a space/area where tourists spend some days. Other points of view state that it is a concept about facilities, goods and services. It is very important for destination management organizations to predict the new direction in tourism activities and in this case the destination product determines successful offers. This article shows different ideas about tourism destination concept and offers a general review on this subject.

2. Methodology of the research

The aim of this research is to review different approaches of tourist destination within the attempts to define this concept. After Grant and Booth (2009) we conducted a literature review and a systematized review (not presented here), with a time limitation, given by the databases used and after "most cited" and "most relevant" criteria.

The objectives of this research aim at analyzing the given definitions from a chronological point of view and emphasize an evolution in the approach of this concept.

Research has been done using Clarivate Analytics/Web of Science database. The research was carried out between October and November 2019. The following key words have been used: "destination", "tourist destination" and "tourism destination". The time frame 1975 - 2019 has been chosen. For the first two key words the research has been done according to the topic and for the third key word, research has been done specifically according to the title. Applying the topic of searching "tourist destination" a number of 9236 of articles have been found, out of which the most frequent quotations are derived from 58 articles. From the 9236 articles resulted from the topic "concept of destination" ten results have been found.

For the topic "destination" 69.304 results have been found. Out of these we have selected the ones with the most quotations, namely a number of 317 articles. An additional selection has been made among the 317 articles by introducing search according to "concept of destination". Twenty-one articles resulted and out of these 14 refer to tourist destination. The ten results mentioned above are also included among these 14 results.

We have ended the research with the Google academic database, in line with the search words "tourist destination concept" and have selected according to relevance ten more valuable articles in relation to the researched topic. In total, we have analyzed thirty – three articles and some of them are presented here.

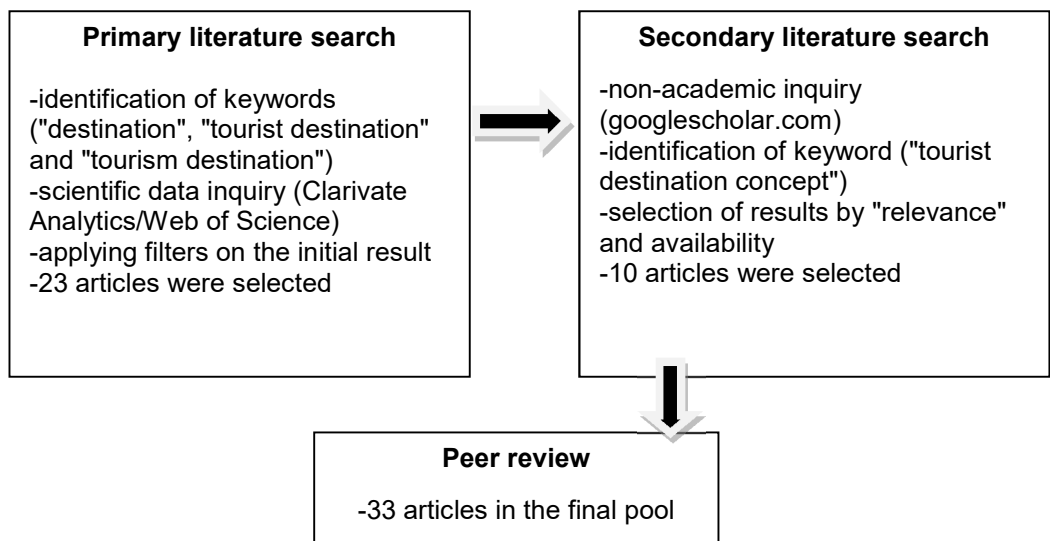


Figure 1: Methodology for article search

Source: created by authors

3. Different views of tourism destinations

In recent years, tourism destinations concept was studied by many researchers in tourism. The approaches of this concept are so different (from a geographic

perspective, as merged marketing, from a cultural perspective, as interaction between stakeholders etc.) that this has led to more ambiguity rather than clarity (Framke, 2002). For instance, in 1970 Georgoulas said "tourism as an industry occurs at 'destination areas' – areas with different natural and/or man – made features, which attract non – local visitors (or tourists) for [a variety of activities]." (Framke, 2010:95). Similar opinion had Leiper (1979:397) who said that "tourist destination regions can be defined as locations which attract tourists to stay temporarily, and in particular those features which inherently contribute to that attraction".

Most popular way of seeing tourist destination is that proposed in 1973 by Medlik and Middleton (in Saraniemi and Kylänen, 2010) where destination is a complex of five elements: destination attractions, destination facilities, accessibility, images, and price. A year later, in 1974 Burkart and Medlik formulated the tourism destination concept as follows as: "The geographical unit visited by a tourist may be a self – contained centre, a village or a town or a city, a district or a region, an island, a country or a continent." (in Framke, 2010: 96)

The difference between these two approaches is the geographical limitation. Also the second definition doesn't mention about the facilities or services that influence the tourist to visit a destination.

Another point of view is formulated in 1992 by Mill and Morrison. Their definition said: "The destination is composed of: Attractions - Facilities - Infrastructure – Transportation – Hospitality" (in Framke, 2010: 96). The aspects missed in this definition are: tourists, motivations, delimited areas where the consumption took place.

In 2010, the ideas from the 70's come back through the definition given by Bornhorst et al. (2010:572) who say that a tourist destination is "a geographical region, political jurisdiction, or major attraction, which seeks to provide visitors with a range of satisfying to memorable visitation experiences".

Saraniemi and Kylanen (2010) pay due attention to the concept of tourist destination and analyze this concept from different perspectives: economic geography - oriented, marketing management - oriented, customer - oriented and cultural.

Regarding the economic - geography approach, the most important factors are: the space and the mobility between two different area. Marketing - management oriented research states that the tourism destination is a product which offers different facilities created to satisfy tourists needs. The customer - oriented approach points that the tourist is a customer who selects different goods and services from the market. The last one approach is about cultural view, where different people interact and the result are different thoughts, new experience and active involvement.

They view tourist destination as a key concept in understanding the complexity of the market (with all the players and the relations among them). They stated that "by switching the emphasis to destination cultures, it is possible to give a more realistic and hands-on picture of the different turns and perspectives taking place in destinations" (Saraniemi and Kylanen, 2010:140)

In 2012, appears a new term-friendly destination. Anuar et al. (2012:69) said: "Tourist friendly destination is a concept that provides satisfaction by fulfilling tourists' wants and needs through the maximization aspects of space, activity and products sans interference or problems, beginning from a tourist's place of origin all the way to the desired tourism destination."

2014 and 2015 year added a new and current concepts- smart destination, sustainable and innovative destination. Buhalis and Amaranggana (in Vecchio et al., 2018:1) said that "Smart Tourism Destination is the result of the interconnection of tourism destinations with multiple community stakeholders through dynamic platforms, knowledge intensive communication flows and enhanced decision support systems".

Lopez de Avila states that "an innovative tourist destination, built on an infrastructure of state-of-the-art technology guaranteeing the sustainable development of tourist areas, accessible to everyone, which facilitates the visitor's interaction with and integration into his or her surroundings, increases the quality of the experience at the destination, and improves residents' quality of life" (in Gretzel et. al, 2015:180).

4. Conclusion

This paper offers different approaches of tourism destination concept, without any claim to cover all the perspectives related to this issue. Nevertheless, the chronological analysis of the given definitions provides a picture of the approach development, in a direct relation with the changes of the macromedia. As the years went by, besides the geographic and administrative approach and the approach from the resource perspective there have been added other approaches such as the marketing approach (image, brand, experience, user satisfaction, friendly destination), the approach from the relationship with the stakeholders view (implications for the community, sustainable destination) and quite recently, destination perceived as a network of connected organizations and smart destination.

In the last years on the tourism market, there are important changes: influence of internet (social media, travel blogs), new areas that offer a different experience, different pattern of behavior, the new technology or the political situation in different countries which makes the cultural approach of destination become very important.

The boundaries of the work are given by the scientific database consultation (Web and Science) to which we have added Google academic (partially consulted materials). Moreover, we have noticed that in many of the articles identified on this database there are no direct definitions given, but instead other works are quoted. For that very reason we have consulted the materials suggested in the articles identified in the database.

As future research, the concept of tourist destination will be studied in relation to other concepts such attractiveness, image, competitiveness.

References

- Anuar, A. N. A., Ahmad, H., Jusoh, H., & Hussain, M. Y. (2012). *Understanding the Role of Stakeholder in the Formation of Tourist Friendly Destination Concept*. *Journal of Management and Sustainability*, 2(2), pp.106-114.
- Bornhorst, T., Brent Ritchie, J. R., & Sheehan, L. (2010). *Determinants of tourism success for DMOs & destinations: An empirical examination of stakeholders' perspectives*. *Tourism Management*, 31(5), 572–589.
- Framke, W. (2002). *The Destination as a Concept: A Discussion of the Business-related Perspective versus the Socio-cultural Approach in Tourism Theory*. *Scandinavian Journal of Hospitality and Tourism*, 2(2), 92–108.
- Framke, W., (2010). *The destination as a concept: A discussion of the business – related perspective versus the socio – cultural approach in tourism theory*. *Tourism Research Centre of Denmark*. Roskilde University.
- Grant, M. J., Booth, A. (2009), *A typology of reviews: an analysis of 14 review types and associated methodologies*. *Health Information & Libraries Journal*, 26: 91-108.
- Gretzel, U., Sigala, M., Xiang, Z., (2015). *Smart tourism: foundations and developments*. *Electronic market*. DOI 10.1007/s12525-015-0196-8
- Leiper, N. (1979). *The framework of tourism*. *Annals of Tourism Research*, 6(4), 390–407. doi:10.1016/0160-7383(79)90003-3.

Saraniemi, S., & Kylänen, M. (2010). *Problematizing the Concept of Tourism Destination: An Analysis of Different Theoretical Approaches*. *Journal of Travel Research*, 50(2), 133–143.

Vecchio, P. D., Mele, G., Ndou, V., & Secundo, G. (2018). Creating value from Social Big Data: Implications for Smart Tourism Destinations. *Information Processing & Management*, 54(5), 847–860.

Web of Science, http://apps.webofknowledge.com.am.e-information.ro/WOS_GeneralSearch_input.do?product=WOS&search_mode=GeneralSearch&SID=C5o123pnmPnf6r5HgU4&preferencesSaved= [Accessed in 29, 30 October 2019].

Google academic, <https://scholar.google.com/> [Accessed in 1, 2 November 2019].

A THEORETICAL APPROACH REGARDING ENTREPRENEURSHIP AND ITS DETERMINANT FACTORS

Victor Deliu

Doctoral School of Economic Sciences and Business Administration, West University of Timisoara, Romania

victor.deliu@yahoo.com

Abstract: *This paper highlights the theoretical aspects of entrepreneurship and entrepreneur, as well as the influence of the determined factors that lead to the emergence of entrepreneurship. The study is focused on both the essence of entrepreneurship and the three categories of factors: social, cultural and economic. These factors influence the emergence and development of entrepreneurship. All these factors can be combined and a complete circuit is obtained, being the basis of the company by gaining the necessary knowledge and accumulating the necessary capital for starting and setting up a business through which the entrepreneurial activity manifests itself. After studying the literature an important aspect was discovered that entrepreneurship is a topical subject, with a growing and diverse literature. The article is intended especially for students, doctoral students and economists interested in improving their knowledge of the entrepreneurial field.*

Keywords: entrepreneurship; entrepreneur; determinant factors of entrepreneurship.

JEL classification: L20; L26; L29.

1. Introduction

A vital point in the growth and development of countries with a developed economy is represented by entrepreneurship - a specific and powerful particularity, characterized by entrepreneurs able to fulfill their dreams, to set up prospective businesses with jobs, with increasingly advanced technologies most developed, with varied and prosperous knowledge.

Entrepreneurship is a topic debated and researched by countless scientists, who to this day are trying to identify the benefits and effects that entrepreneurship and entrepreneurs have. Through the risks assumed by the entrepreneurs, new businesses emerge that multiply the profit and capitalize the efforts of the businessman. Many researchers consider entrepreneurship to be the main source through which the economic system develops in all its branches. In the specialty literature, emphasis is placed on various definitions of entrepreneurship and the factors that lead to their emergence.

The purpose of this study is to identify and develop the current perspectives of academic research in the field of entrepreneurship and the factors that lead to the emergence of entrepreneurship. In the first part of the paper is presented the theoretical framework of entrepreneurship and the entrepreneur. The second part of the study is represented by the three categories of determinants of entrepreneurship and their impact on the development of entrepreneurship.

A great contribution to entrepreneurial theory was brought by Joseph Schumpeter (1934), who considered entrepreneurship to be the "main engine of the economic system" and that one of the functions of entrepreneurship is the innovation that comes

with the changes in the world economy. Frank Knight (18th-19th centuries), quoted by Long (1983) considered that entrepreneurship is represented by people who, through the activities carried out in order to obtain profit and success in business, assume some risks and take on various responsibilities.

Thurik and Wennekers (1999) defined the entrepreneur as the person with the will and the ability to develop new economic opportunities, both on their own and with a well-structured team, either from the created organization or from outside.

Richard Cantillon argued that entrepreneurs are nothing more than the people of connection, the intermediaries between the workers of the land and the owners of the lands, being the entrepreneurs, the traders who take the risks when selling the obtained production affirmed by Hébert and Link (2006).

Entrepreneurship is nothing more than a process characterized by discovery, innovative technology, identification and evaluation of new opportunities by the people involved in the process argued by Fayolle (2010). According to Organisation for Economic Co-operation and Development, entrepreneurs are business people who tend to increase the level and value of capital by developing activities carried out by discovering new products, markets or processes.

Entrepreneurship is defined by the Global Entrepreneurship Monitor as „Any attempt at new business or new venture creation, such as self-employment, a new business organization, or the expansion of an existing business, by an individual, a team of individuals, or an established business”.

2. Determining factors of entrepreneurship

A lot of factors can influence people's decisions to become entrepreneurs instead of choosing a stable job with a guaranteed salary. Intentions serve as an intermediate link between these factors, a link to the implementation of certain actions and achievements. However, the connection between intentions and actions is quite weak. Existing research shows that no more than 30% engage in concrete actions.

The factors that affect entrepreneurship are grouped into 3 categories: social, cultural and economic.

From a social point of view, the structure and social development of a country is an important factor, as well as the culture. Strictly focusing on social issues, the literature often refers to Schumpeter's social climate (1934). This concept involves the sociological, economic and institutional climate of the company in which the entrepreneurs operate. These factors include social values, vocational training, degree of economic freedom and institutional quality. Therefore, an appropriate social climate stimulates entrepreneurial activity, enhances economic growth and helps create new jobs. In order to encourage such a social climate, a strong institutional foundation is essential. Researchers usually consider creating institutions and improving them, while their quality encourages market activity, avoiding the economic shocks according to Acemoglu et al (2002). These institutions usually include: the political environment which involves parliament, regulation and supervisory institutions; the economic environment which involves central bank and fiscal institutions; the entrepreneurial environment which involves property rights, supervisory institutions to correct market failures, social capital and the state of law. In terms of entrepreneurship, researchers consider the role of institutions from different perspectives. Researching the effects of institutions on entrepreneurship distinguishes between formal and informal institutions, Williamson (2013) argues that both types affect entrepreneurship, although differently depending on the type of entrepreneurship. The political environment, civil rights and

human rights, effective government, state of law and control of corruption strengthen the role of institutions.

McCloskey (2010) states that cultural norms encourage entrepreneurs to engage in entrepreneurial activity. As a result, entrepreneurs should know both the formal and informal rules within the company in which they operate.

Culture can stimulate entrepreneurship and assume the role of education and training in developing the skills and attitudes that lead to entrepreneurship, according to Reynolds et al. (1999). Higher education provides people with the knowledge and tools they need to create a business, while helping emerging entrepreneurs identify the market, according to Barreneche (2014). However, education is not the only cultural factor that can affect entrepreneurship. For example, the cultural legitimacy of entrepreneurship and economic freedom affects the beginning of entrepreneurship, stated by Powel and Rodet (2012). Herbig and Dunphy (1998) argue that the values of a company and individuals within a country can also affect entrepreneurial activity. These measures are the provision of capital, risk funds, tax incentives, government procurement programs, contracts, protection of intellectual property rights, investments in education and research, development and specific support granted to entrepreneurs by government agencies.

Economic performance is also important, as the activity creates positive economic expectations and improves the perception of opportunities, motivating individuals to engage in entrepreneurship. Therefore, any initiative that stimulates economic activity and helps establish a stable macroeconomic environment stimulates entrepreneurship. A monetary policy with low interest rates and low tax rates can produce desirable outcomes, such as increased economic activity and greater economic stability, stated by Bourguignon and Verdier (2000).

3. Conclusion

The relationship between the entrepreneur and entrepreneurship or between individuals and the economic process is strongly influenced by the factors of the entrepreneurial framework that have a strong impact on opening as many companies as possible to achieve success and admiration. It can be stated that these factors have a direct and indirect influence on the performance in the entrepreneurial field. With the passage of time, following the studies and researches, a considerable number of indicators and factors can be identified by which one can measure the level of development of entrepreneurship, as well as the effects of business success in a certain region, area, country. In conclusion, we can say that entrepreneurship is a main factor in economic development and growth, being adapted to a certain region or country, being different due to the way of development, the level of available resources and the standard of living. As it is mentioned in the present paper, there are three important categories of factors: social, cultural and economic. The environment in which the entrepreneurship is carried out is extremely important, each enterprise being adapted to the factors that are met in the region where the respective business is conducted.

References

Acemoglu, D., Johnson, S., Robinson, A. (2001). *The colonial origins of comparative development. An empirical investigation*. American Economic Review, 91(5), pp.1369–1401.

- Barreneche, A. (2014). *Analyzing the determinants of entrepreneurship in European cities*. *Small Business Economics*, 42(1).
- Bourguignon, F., & Verdier, T. (2000). *Oligarchy, democracy, inequality, and growth*. *Journal of Development Economics*, 62 (2), pp.285-313.
- Global Entrepreneurship Monitor, Available: <https://www.gemconsortium.org> [25 October 2019].
- Hébert, R.F. & Link, A.L., (2006), *The Entrepreneur as Innovator*, *The Journal of Technology Transfer*, 31 (5)., pp.133-136.
- Herbig, P., & Dunphy, S. (1998). *Culture and innovation*. *Cross Cultural Management: An International Journal*, 5(4),pp.13-21.
- Long, W. (1983). *The Meaning of Entrepreneurship*. *American Journal of Small Business*, 8(2), pp.47–59.
- McCloskey, D. (2010). *Bourgeois dignity and liberty: Why economics can't explain the modern world*. Chicago: University of Chicago Press, p.18.
- Organisation for Economic Co-operation and Development Available: <https://www.oecd.org/sdd/businessstats/indicatorsofentrepreneurialdeterminants.htm> [25 October 2019].
- Powel, B., and Rodet, C.S. (2012). *Praise and profits: Cultural and institutional determinants of entrepreneurship*. *The Journal of Private Enterprise*, 27(2), pp.19-42.
- Reynolds, P.D., HAY, M. & Camps, M.(1999) *Global Entrepreneurship Monitor, Executive Report*. Londres: Kauffman Center for Entrepreneurial leadership.
- Schumpeter, J.A. (1983). *The theory of economic development*, Editura Routledge, New York, p.26.
- Wennekers, S., Thurik, R., (1999), *Linking Entrepreneurship and Economic Growth*, *Small Business Economics*, 13(1), pp. 22-55.
- Williamson, C.R. (2013). *Disentangling institutional determinants of entrepreneurship*. *American Journal of Entrepreneurship*, 1, pp.40-66.

GENERATIONS Y AND Z RESHAPING LUXURY BRANDS

Amadea Agapie¹, Gabriela Sîrbu²

¹Marketing, West University of Timișoara, Faculty of Economics and Business Administration, Timișoara, Romania

²Marketing, West University of Timișoara, Faculty of Economics and Business Administration, Timișoara, Romania

amadea.agapie@gmail.com

gabriela.sirbu@profi.ro

Abstract: *The enhancing speed of technology evolution and the on-growing power of the internet have reshaped consumers and industries alike in the past years. Consumer generations, such as Y and Z, have been impacted differently, thus creating new values, needs and perceptions. Like a chain reaction, this has forced the luxury industry to face its fear of online exposure and mould its offerings, communications, engagement strategies and distribution channels after the new cohorts. A great amount of these changes does not convey with luxury tradition, and although they may be deemed as risks, they cannot be ignored. Current conversions are redefining the perception of luxury and may in the future even alter the consecrated definition of luxury. This paper aims to illustrate the influence exerted by the new consumer behaviour on luxury brands. The study is ongoing, being concentrated on literature review and emphasises on deciphering new consumer generations and their direct ascendancy over luxury brands.*

Keywords: consumer behaviour; luxury brand perception; digital age; generation Y; gen Z

JEL classification: M31, M37, O33.

1. Introduction

In the academic world, no consensus has been reached in order to fully define the term luxury. A common concept underlines the fact that the interpretation of luxury lies in the hands of the consumer, somewhat similar to the concept stating that beauty is in the eyes of the beholder. Thus, consumers outline the definition according to their own vision and ideas. Traditionally, luxury was presented as something that goes beyond what is necessary (Reith & Meyer, 2003). It could have been expressed by objects that were rare, original, expensive and of high quality, or by refined and exceptional services that offer a high level of comfort (Okonkwo, 2010). Although there are a set of traits that should not perish, luxury continues to change its meaning according to the people who perceive it. Nowadays generations, such as Y and Z, alongside with the fast growth of digital experiences are revaluating the luxury term. The time period for the two cohorts remains ambiguous. Generation periods differ from one author to another, most often Generation Y or Millennials are classified as consumers born between 1979 and 1993 and Digital Natives, or Gen Z, are the ones born after 1993. This last-mentioned generation is becoming the voice of the internet and thus impacting perceptions and purchases even beyond the luxury market. The two generations hold both common and different behaviours that directly influence luxury

value and consumption. These behavioural aspects concern shopping values and motivations, both in the digital environment and the offline world.

For a long period of time literature excluded the association of luxury products with the online environment, as it may be of fault to their brand image. It was considered that the internet breaks the barriers of time and space, two essential pillars of creating luxury value. Luxury needed time to be produced, accessed, purchased and delivered (Kapferer, 2015). At this point in the 21st century, maintaining these beliefs may have a negative outcome. Moreover, before accepting the digital channel and adopting new strategies, luxury brands must first and foremost understand their new consumers. The industry must be aware of how generations evolve and modify their purchasing behaviours. Consumers, in general, are affected by the digital age and they are changing day by day, younger generations having and even faster evolution. The high amount of information and visual content are general set offs that remodel consumer actions and beliefs. This study explores the perceptions of generations Y and Z upon luxury products from a literature perspective and aims to help luxury brand managers rethink their strategies by adapting them to these new perceptions and needs. Another significant implication is the fact that the study emphasises the need for an online brand presence and different marketing campaigns targeting generations Y and Z. Regarding academic implications, the present research beholds information regarding purchase motivations, preferred marketing platforms, customer needs and intentions specific to each generation that might be of use for further studies even outside the field of luxury brands. The study is ongoing, thus this literature approach will be followed in the future by empirical research conducted and analysed using both qualitative and quantitative methods.

2. Millennials and Digital Natives Influencing Luxury Brands

Digitalization and internet expansion have developed the new generations outstandingly different from the ones in the past. Generation gaps were always present, but they are becoming more and more visible nowadays. Millennials and Digital Natives were the first generations to include the internet and connected technologies in their everyday life. The two generations have no knowledge of the world before everything was just one click away. They are exposed to thousands of different internet stimuli daily, which enables them to absorb information at a speed never even imagined by past generations. This implying the fact that the two cohorts are developing traits and skills that were unobtainable at such an early age by other generations. Easy access to information and education online also has a significant contribution to the premature development of generations Y and Z. They have boundless options and possibilities that activate new expectations from the luxury brands.

The internet has also provided them with a voice that could be heard worldwide in matters of seconds. Consumers can share their beliefs and products reviews instantly online, influencing other consumers and shaping their purchase decisions. Generation Y and Z are the most active in the digital world and are monopolizing the digital “luxosphere” (Castillan et al, 2017). In 2018 Generations Y and Z represented 47% of luxury consumers and accounted for 33% of luxury purchases. It is estimated that by 2025 they will represent approximately 55% of the luxury market (Bain & Company, 2019). Their power is becoming no longer questionable and thorough research must be conducted in order to help luxury brands fully orient themselves towards the two generations that represent the future of the industry. This illustrates the importance of having an online presence. Luxury brands can no

longer hide and avoid internet exposure. Generation Y and Z members may perceive luxury brands that are not present online as untrustworthy and can even undermine their existence in the luxury field.

Millennials are considered to be the first high-tech generation. They are difficult to decipher by marketers, since they are not convinced by traditional marketing techniques and, moreover, that they are not easy to turn into loyal consumers (Bush et al., 2004). As their generation is closer to generation X, they tend to also maintain some traditional values. The generation could be parted into different generations, those influenced more by generation X and those similar to gen Z. The latter are more likely to express no brand loyalty as for the former they are motivated to buy luxury products to create a higher social status image. Millennials closer to Gen Z are not social status-driven and are not motivated by this when buying luxury products. They crave a much more personal and emotional connection with luxury brands (Tsui & Hughes, 2001). They are attracted by the perceived value of the brands they buy. Generation Y associates marketed products with a cause they believe in. Moreover, they always opt for brands that advocate for the causes they support and will appreciate a product that shows greater involvement (D'Arpizio et al., 2019).

Luxury consumers of the past would express more interest in the quality of the product rather than a cause the brand endorses. Alongside Millennials, Gen Z is also spreading awareness and tend to choose luxury brands that emphasise on social and environmental issues, 64% of them are influenced for example by sustainability (BCG, Altagamma, 2019). Luxury designers, such as Gucci and Chanel, are adapting to these new consumer needs and banned fur which was once the epicentre of luxury clothing. Thus, changes in the shape of what future luxury beholds are visible.

Generation Y express less interest in brick and mortar shops, while the younger generation wishes to connect also with the offline experience when buying luxury products. Some author depicted a certain downfall of the traditional shops in favour of e-commerce, but it seems that upcoming generations are planning a revival. Luxury brands have to create a new shop experience that combines offline and online experience in order to increase the number of consumers offline shop visits.

Consumers from both generations are interested in resale value. This stimulating the appearance of vintage luxury e-commerce. Being always connected, gen Z manifest high social media interaction with luxury brands and bloggers, 93% (BCG, Altagamma, 2019). This is a common trait shared with generation Y. It is mandatory that luxury brands are present online even though they do not engage in e-commerce. The ones that saw beyond the internet obstacles and accepted the digital challenge may consider including vintage items in their product range.

Moreover, 70% of luxury consumers of the two generations research their purchases online. Recent studies suggest the fact that by 2025 all luxury purchases will be influenced by online interactions. The market value of the internet in the luxury field in 2018 was 10%. Taking into consideration the fact that both cohorts are fully engaged online, and luxury brands presence online is a must it is safe to state the luxury industry future is digital. (Chehab & Merks-Benjaminson, 2013)

Moreover, both generations are inclined to purchase collaboration luxury products. These collaborations most of the time refer to collections created by luxury brands side by side with fast fashion brands, for example, Moschino for H&M and Louis Vuitton and H&M.

The two generations have a mutual interest in uniqueness and want to purchase objects that reflect their own personality. Thus, most of them prefer buying luxury products that combine consumer touch and traditional brand craftsmanship. Brands like Gucci and Balmain have created pop-up shops in different locations for a limited

period. These pop-up locations sell products that cultivate consumers personal style using technology beside craftsmanship.

Sales have increased for luxury companies that embraced change relying on new consumer behaviours, Gucci having the most relevant rise in the under 30 consumer group.

3. Conclusion

The analysis of both business and academic literature indicate clearly that luxury brands are facing a transition period, they are moving towards different traditions and beliefs that are only slightly anchored in the past. Luxury brands are starting to adopt the preferences of younger consumers one step at a time with remarkable positive results. Thus, further study on this matter will aim to indicate more in-depth behavioural changes of generations Y and Z, that will broaden luxury brands perspective and help them emerge successfully in the digital era.

References

- BCG, Altgamma (2019) *True-Luxury Global Consumer Insight*, Available: <http://media-publications.bcg.com/france/True-Luxury%20Global%20Consumer%20Insight%202019%20-%20Plenary%20-%20vMedia.pdf>.
- Bush et al. (2004) *Sports Celebrity Influence on the Behavioral Intentions of Generation Y*, Journal of Advertising Research 44(01):108-118.
- Castillan, L. et al. (2017) *Online luxury: The code breakers of a traditional sector*, Procedia Computer Science 112 579-586, Elsevier B.V., Available: <https://www.sciencedirect.com/science/article/pii/S1877050917326546>.
- Chehab, M. & Merks-Benaminsen, J. (2013) *A look at luxury shoppers around the world*, Available: <https://www.thinkwithgoogle.com/consumer-insights/luxury-shoppers-around-world/>.
- D'Arpizio, C., Levato, F., Prete, F., Fabbro, E. & de Montgolfier, J. (2019) *Luxury Goods Worldwide Market Study, Fall-Winter 2018*, Bain and Company, Available: https://www.bain.com/contentassets/8df501b9f8d6442eba00040246c6b4f9/bain_digest__luxury_goods_worldwide_market_study_fall_winter_2018.pdf
- Kapferer (2015) *Kapferer on Luxury: How luxury brands can grow yet remain rare*, Londra: Kogan Page.
- Okonkwo, U. (2010) *Luxury Online: Style, Systems, Strategies*. New York: Palgrave Macmillan.
- Reith, R. & Meyer, T. (2003) *Luxus und Konsum - Eine Historische Annäherung*, Salzburg: Waxmann.
- Tsui, B. and Hughes, L.Q. (2001) *Generation next*, Advertising Age, Vol. 72 No.3, pp. 14-16.

DIGITAL MARKETING MODELS – BUILDING EFFECTIVE DIGITAL MARKETING STRATEGIES

Andreea-Diana Suci (Vodă)

Department of Marketing, Transilvania University of Braşov, Braşov, Romania

andreea.suciu@unitbv.ro

Abstract: *For the reason that customers shifted from traditional to digital world, businesses have to regularly improve and adapt their marketing strategies in order to survive in a self-named digitalized world. That's the main cause of the classical marketing approach changing substantially in the past years. The digitalization of customer's everyday activities, and the need to know him at individual level in order to provide favourite offers, led to the emergence of various digital marketing models, principles and technologies. The aim of this paper is to analyse and summarize a few digital marketing models that help companies to build better digital strategies, by efficiently using all resources to achieve business growth. Thus, hopefully will open the way for further research and development in the area, given the digital marketing approaches. The main method used for future empirical research, to determine companies' perception on digital marketing strategies and the degree of acceptance of the marketing technologies, will be the interview-as qualitative research. The analysis will be done on companies from Romania in the high-tech industry. Based on the information gathered, a quantitative research will be conducted, giving the opportunity to extrapolate the results to the Romanian high-tech market level.*

Keywords: Digital Marketing; Digital Strategy; Marketing Automation; Customer Relationship Management; Search Marketing; Marketing 4.0;

JEL classification: F11; M15; M31;

1. Introduction

It can be noted that there is a functional relationship among the development of marketing theory and scientific-technical progress. The digital-transformation started to eliminate the classical offline business model – if a company is not existing on the internet, it may leave the market (Oklander *et al.*, 2018). Because of this fast development in digital environments and by the need to build personal relationship with customers, businesses are seeking to engage with customers digitally (Eigenraam *et al.*, 2018).

The fast evolution of the digitalized world led not only to the emergence of many technologies but to new models and principles on how to build the most effective digital strategy. Even if the digital is the new trend on most areas, according to the marketing 4.0 theory there will always be a need to combine the online and the offline interaction among the company and the client (Kotler, Kartajaya and Iwan, 2017) in order to achieve what's best for both sides.

2. Research methodology

Taking into consideration the theoretical approach of the current scientific paper, the research included only literature review. There have been read several books in the

field of digital marketing, the selection of the presented models being made based on the author's expertise in the digital marketing consultancy services and market education field. The models were defined by the (co-)founders of the following companies: Digital Marketing Institute (Dodson, 2016), Quirk, now Mirum (Stokes, 2013) and Francis Buttle&Associates (Buttle, 2009).

3. Digital marketing models

It is obvious that the internet managed to differentiate itself from all other communication channels (José and Rocha, 2019). Because of this, nowadays the companies are able to gather a lot of information about their customers. Building a digital marketing strategy is crucial in order to get the most of the technical progress (Chaffey *et al.*, 2006). Various models and principles have been developed during last years, four of them being presented below.

3.1. 3i model

Ian Dodson (2016) shows that the key to a successful digital marketing strategy is the 3i model, name given by the 3 most important processes: initiation, iteration and integration.

The initiation principle states that the client is the starting and the end point for all the digital activities, and the answer to any company question is always given by the customer (Järvinen and Taiminen, 2016). In order for a company to win on the market, it has to be a good listener for the one who should initiate all the actions into de marketing processes, the customer.

Taking into consideration the second principle, iteration, Dodson (2016) considers that any marketing channel can be the most effective one, only if an iterative process is applied. So, during a digital marketing campaign, a company presents the first version of content to the customer, analyses the interaction and improves where needed. The key to success is to never stop on one step, working within an iterative loop.

Integration on the digital marketing channels means collecting, analysing and using all customer data gained, from a channel to the other. Nothing is lost, everything should be used to learn and then optimize, as an integrated customer vision is the greatest starting point to a good conversion rate (Veneri and Capasso, 2018).

3.2 TCEO model

TCEO is a popular model which is considered to lay the foundation of digital marketing (Stokes, 2013). It classifies the marketing efforts into 4 main actions: think, create, engage and optimize.

Think is considered to be the starting point for any digital marketing step. It is all about developing the company's strategy for the digital world. The most important steps here are considered to be the marketing research (Smith and Albaum, 2012) and the digital marketing content strategy definition.

The create step brings to life all previously defined concepts, plans and tactics by executing the digital marketing campaigns. It comprises everything from digital assets creation to web development. Currently, a big challenge is to create digital assets which can take full advantage of the rapidly evolving technology, in the meantime being accessible to the late majority (Rogers, 1995) too.

Engaging part has the responsibility to generate online traffic and to build relationship with the customers. Search engine optimization, email, social media or mobile marketing are only few key activities part of this step (Oklander *et al.*, 2018). Here, the main advantage of the marketing activities digitalization is that all this online marketing

campaigns can be tracked and analysed using the information collected, to better engage with the customer from one campaign to another.

Optimizing means continuously improve, providing knowledge through analytics, data extraction, conversion optimization and testing. Important is to be aware that the optimization is relevant and essential on every step mentioned above. Data plays the main role and using it to understand the consumer's behaviour and how it can be influenced can led to the best conversion rates (Maheshwari, 2015).

3.3. 5P model

The 5P model, defined by the Digital Marketing Institute (DMI hereafter) is very effective for companies focusing on search marketing. With every search, users leave behind important data that contains personal information. As a result, the customer understanding can be improved using the 5P model. According to Dodson (2016), there are 5 variables that should be taken into consideration when applying this model: the person, the place, the product, the priority and the purchase. Data about each of this variable is continuously collected (Maheshwari, 2015), providing in the end what truly matters for the customers – relevance .

Regarding the person (or searcher), information such as gender, age, language, or religion can be collected and an educated guess about user profile can be made. The place provides data about the city and the country where the user is located, information given by the search query. In some specific situation the exact location of the user can be identified. The product shows the area of interest for a specific search and helps identifying the consumer's need or problem. Regarding the priority, the search query provides information about the purchasing time periods and can recognize how urgent a purchase is for the user. In the end, purchasing is about data on how and wherefrom a product or service will be bought and where in the sales funnel the customer is located (Dodson, 2016).

3.4. SCOPE model

The SCOPE model is mostly used on the customer relationship management (CRM hereafter) (Dyché, 2002) and defines the parties that should be involved in the company's processes. Building a network is very important also for the company's digital strategy. According to Buttle (2009), the network members should be products, services, workforce, finances, technology and knowledge suppliers, having a common objective – value added for the customer.

SCOPE comprises 5 main actors as follows: the suppliers, the customers, the owners, the partners and the employees. Share of them are external parties, including the suppliers, owners and partners, the only internal party being the employees. There is a relationship built among all these 4 network members, all their actions being customer focused. Visually, the model can be seen as an external cycle moving in one direction, with the client inside (Buttle, 2009).

4. Conclusions and further research

The current theoretical research aimed to provide a better understanding on the marketing trends in a digitalized world. Marketing technologies are likely to replace the processes that were previously done manually, so as repetitive tasks are nowadays automated, to cope with the big amount of customer data. The long-term objective for each company going digitally is to minimize human resource effort and costs while maximizing productivity and building a personal relationship with each customer.

Research thus shows that, various models have been built in the past decade in order to help companies on building effective digital marketing strategies. Each of them involves different actors and activities, in the end having the same goals – to provide the right offer, at the right time, on the right channel, to the right person (Kotler, 2015). Given the above theoretical framework, further empirical research will be conducted by the author, that aims to determine the romanian small and medium enterprises perception on digital marketing strategies and the degree of knowledge and acceptance of the marketing technologies.

References

- Buttle, F. (2009) *Customer Relationship Management-Concepts and Technologies*. Routledge.
- Chaffey, D. et al. (2006) *Internet Marketing Strategy, Implementation and Practice*. Third Edition. Pearson Education.
- Dodson, I. (2016) *The Art of Digital Marketing-The Definitive Guide to Creating Strategic, Targeted and Measurable Online Campaigns*. Wiley.
- Dyché, J. (2002) *The CRM handbook: a business guide to customer relationship management*. Addison Wesley.
- Eigenraam, A. et al. (2018) 'A Consumer-based Taxonomy of Digital Customer Engagement Practices', *Journal of Interactive Marketing*. Direct Marketing Educational Foundation, 44, pp. 102–121.
- Järvinen, J. and Taiminen, H. (2016) 'Harnessing marketing automation for B2B content marketing', *Industrial Marketing Management*. Elsevier, 54, pp. 164–175.
- José, M. and Rocha, Á. (2019) 'Digital learning: Developing skills for digital transformation of organizations', *Future Generation Computer Systems*. Elsevier, 91, pp. 327–334.
- Kotler, P. (2015) *Principles of Marketing*. Prentice Hall.
- Kotler, P., Kartajaya, H. and Iwan, S. (2017) *MARKETING 4.0 Moving from Traditional to Digital*. 4th Edition. Wiley.
- Maheshwari, A. (2015) *Business Intelligence and Data Mining*. BEP.
- Oklander, M. et al. (2018) 'Analysis of technological innovations in digital marketing', *Eastern-European Journal of Enterprise Technologies*, 5, pp. 80–91.
- Rogers, E. (1995) *Diffusion of innovations*. The Free Press.
- Smith, S. and Albaum, G. (2012) *Basic Marketing Research: Volume 1. Handbook for Research Professionals*. Qualtrics.
- Stokes, R. (2013) *eMarketing - The essential guide to marketing in a digital world*. Fifth Edit. Quirk Education.
- Veneri, G. and Capasso, A. (2018) *Hands-On Industrial Internet of Things - Create a Powerful Industrial IoT Infrastructure Using Industry 4. 0*. Packt Publishing.

INTERNET OF THINGS: MARKETING OPPORTUNITIES AND CHALLENGES

Bogdana Glovațchi

Department of Marketing and International Economic Relations, School of Economics and Business Administration, West University of Timisoara, Romania

bogdana.glovatchi68@e-uvt.ro

Abstract: *Identified as one of the most important strategic technologies of the future, the Internet of Things (IoT) is a disruptive and emerging phenomenon, in dynamic development. IoT is referring to a dynamic global network infrastructure of “things” with identifying, sensing, networking, and processing capabilities. These capabilities allow them to communicate with one another and with other devices over the Internet, with minimal human intervention, and to accomplish some objectives. Thus, through the Internet of Things, anything and anyone can be connected at any time and anywhere. Through a marketing perspective, an IoT system includes a digital world in which there is a significant disruption of the relationship environment, caused by new ways of interaction and data transfers - a radical change in the way business partners work (Ng and Wakenshaw, 2017). The purpose of this article is to describe the Internet of Things phenomenon, explaining the role of marketing relationships and of marketing communication and their impact in the business area, while also suggesting future research directions.*

Keywords: marketing; internet of things; relationship marketing;

JEL classification: M31; M21; O32

1. Introduction

Over the last two decades, the development of new technologies has made significant progress and the Internet of Things (IoT) phenomenon has gained increasing global interest. Dynamic smart devices connected by IoT technologies are said to create disturbance at a Schumpeterian level that is only in its initial stages (Ng and Wakenshaw, 2017).

The International Telecommunication Union (ITU) report published in 2005, referring to the IoT states: "from anytime, anyplace connectivity for anyone, we will now have connectivity for anything". Later Gubbi et al. (2013), pp.4 explained the IoT: "interconnection of sensing and actuating devices providing the ability to share information across platforms through a unified framework, developing a common operating picture for enabling innovative applications. This is achieved by seamless large scale sensing, data analytics and information representation using cutting edge ubiquitous sensing and cloud computing."

Disruptive and emerging, the IoT phenomenon is an interdisciplinary topic that arouses both the interest of researchers and practitioners alike. In general, the Internet of Things revolutionizes the way companies interact with customers and also impacts consumers' interactions with products and the Internet.

The impact of IoT and the profound disruptions it induces in the business environment are reflected in both new business strategies, adapted to the context, as well as in the business performance, both at the operational and economic level.

From the marketing perspective, we notice significant changes in the elaboration of marketing strategies in business. At the same time, marketing researchers attach

increased importance to marketing relationships and the way partnerships work, especially in the context of functioning within an ecosystem.

In this paper, first, we'll briefly explain the main aspects of the IoT, as a phenomenon. In the following section, we'll analyze the IoT literature from the marketing perspective, with reference to aspects related to marketing relationships, and marketing communication. The last section will be dedicated to conclusions but also for suggestions for future research.

2. Literature review

2.1. Internet of Things

“The terms ‘Internet of Things’ and “IoT” refer broadly to the extension of network connectivity and computing capability to objects, devices, sensors, and items not ordinarily considered to be computers.

These “smart objects” require minimal human intervention to generate, exchange, and consume data; they often feature connectivity to remote data collection, analysis, and management capabilities affirmed Rose et al. (2015). Technology devices are now using the Internet to exchange data, for smart identification, and to contribute to IoT operations management (Wang and Hsieh, 2018).

These "things" can collect a high amount of data from users, creating innovative applications for consumers and for organizations. The presence of IoT can be seen in both consumer and business settings. In the domestic area, IoT shows up in online-shopping, e-learning or assisted living scenarios. With regard to business, IoT has developed into automation systems, manufacturing, logistics, and business process management. There are already sectors where IoT is successfully implemented, such as mobile healthcare, senior assistance, retail, agriculture, smart energy management and smart grids, industrial automation, etc.

IoT is also an innovative communication paradigm in which intelligent interconnected objects, as well as users part of the system, use digital communication (Atzori et al., 2010).

2.2. Relationship marketing

Marketing literature refers to business marketing relationships in the sense of developing and maintaining long-term relationships with clients as well as with other stakeholders. It involves three primary principles: trust, mutual value creation and commitment.

Building up a solid relationship with clients has the result an increased degree of consumer satisfaction which thus helps gain their trust and their loyalty, leading to the prosperity of the entire organization (Payne et al., 1995).

The quality of relationships between partners is a determining factor of their duration over time, hence the importance of developing good practices in quality-oriented marketing relationships of the organization. A quality relationship between partners ensures the achievement of each one's goals.

The development of a relationship evolves in stages and involves aspects that the company must take into account, as these affect how close the relationship becomes and how this will be reflected in terms of loyalty. Thus, in the case of customer relationships, at different stages the company must support the customer by providing information that can model the perception of the product or service offered and also models a certain behavior. In this sense, marketing means a set of tactical and strategic actions that lead to customer retention, with a positive impact on the benefits obtained by the company. Landry (1998) sustain that relationship marketing is based on an extended database created by the company to achieve a better understanding of

the profiles of its clients, in order to develop and consolidate close relationships with them. This database with clients considers different communication channels and aims to deliver value and services.

Relationship marketing in business practice manifests itself through concrete actions and is usually evaluated in terms of profitability. Complementary, with effects that cannot be measured, relationship marketing also generates word-of-mouth communication from customers as well as customer loyalty.

All these practices of relationship marketing give the company competitive advantages that support the stable development of the business.

2.3. Relationship marketing in IoT context

By exchanging digital data within digital communication, IoT technologies enhance interactions. This aspect benefits companies that understand the importance of developing and maintaining digital relationships with their clients and other stakeholders.

Smart connected objects able to collect and exchange data can achieve a high amount of strategic information from the users. Collected data are especially useful for understanding and predicting consumer behavior because IoT makes available the visibility of the user's connections and interactions anytime, anywhere, with anything and anyone, any network, and any service. These data create previously unknown opportunities for enterprises: to act proactively especially from the perspective of customer relations, to offer to the market products and services as they needed, to become more efficient. In order to develop their businesses and to acquire increased competitive advantages, companies need to be able to transform data into valuable information they can utilize and also to continually, adjust their customer relationships and their marketing strategies. "The use of new technologies like IoT to access customer preferences and patterns of behavior has created a whole new world to be explored; it makes it possible to be even closer to the customers and understand better what their needs are. It positively impacts the relationship." (Lo and Campos, 2018, pp. 15).

Through disruptive concept as "data as a service" IoT turns the physical product experience into one of service. IoT is a service because it will apply its competence to co-create value with the consumer (Vargo and Lusch, 2008).

Different business areas are exploring relationship marketing and IoT solutions to explore untapped markets. IoT solutions aligned with relationship marketing strategies are applied for the creation of new products to tap an existent market, or in other cases, through innovative ways, they can inspire the development of a new business tapping an old market. IoT as a platform creates new business solutions, it allows consumers themselves to better tailor their experience of the product to their own contexts and customizes its functionality through their actions. Proposing new solutions and complete services to the customers, companies also strengthen their customer relationships. Utilizing IoT platforms, consumers and other key stakeholders are engaged in corporate communications. Real-time data referring to transactions and usage of products are automatically collected by apps and stored in cloud-based databases of companies. Customer feedback delivers important marketing information needed to enhance corporate communications. Thus, by transforming the Internet into a fully integrated communication platform, IoT allows a better understanding of customer needs and gives businesses higher competitive advantages to increase customer satisfaction and give a positive image to the company.

However, it is necessary to mention some challenges of marketing communication related to the transfer of data between objects, respective to unclear data ownership and the new IoT-based services offerings.

Conclusions

In the context of the challenges due to the disruptive technology changes, blending IoT solutions with marketing relations strategies focuses on how this combination can determine the development of better products and stronger relationships with customers. In consequence, the company achieves higher competitive advantages that stimulate business performance and assure a stable and durable development of the business.

The data resulting from the IoT system gives decision-makers new perspectives and new ideas on how to improve the value proposition, how to create value in an innovative way, while at the same time strengthening the relationship with customers and by adopting more effective policies and practices.

Implemented solutions proves that enterprises who adopted IoT technologies are poised for strong growth because of their ability to improve customer experience, increase productivity, and enable the development of innovative products and services. All the same, IoT is still facing many challenges, along with relationship issues, there are some technical difficulties, also it is a lack of a widely accepted business model. More marketing research is needed to explore the capabilities of the enterprise, for a successfully adoption of the IoT technologies, especially with regard to how the organization is focused on developing partnerships, alliances, and associations.

References

- Atzori, L. et al. (2010) "The Internet of Things: A survey", *Computer Networks*, pp.1-19
- Balmer, J. and Yen, D. (2017) "The Internet of total corporate communications, quaternary corporate communications and the corporate marketing Internet revolution", *Journal of Marketing Management*, 33:1-2, pp. 131-144
- Falkenrek, C. and Wagner, R. (2017) "The Internet of Things Chance and challenge in industrial business", *Industrial Marketing Management* 66, pp. 181-195
- Gubbi, J. et al. (2013) "Internet of Things (IoT): A Vision, Architectural Elements and Future Directions", *The University of Melbourne*, pp. 1-19
- Lo, F. and Campos, N. (2018) "Blending Internet-of-Things solutions into relationship marketing strategies", *Technological Forecasting & Social Change* 137, pp. 10–18
- Lu, Y., Papagiannidis, S. and Alamanos, E. (2018) "Internet of Things: A systematic review of the business literature from the user and organizational perspectives", *Technological Forecasting & Social Change* 136, pp. 285–297
- Ng, I., and Wakenshaw, S. (2017), "The Internet-of-Things Review and research directions", *International Journal of Research in Marketing* 34, pp. 3-21
- Nguyen, B. and Simkin, L (2017) "The Internet of Things (IoT) and marketing: the state of play, future trends and the implications for marketing", *Journal of Marketing Management*, 33:1-2, pp. 1-6
- Pauget, B. (2018) "The implementation of the Internet of Things: What impact on organizations?", *Technological Forecasting & Social Change*, pp. 1-7
- Tang, C., Huang, T, and Wang, S. (2018) "The impact of Internet of things implementation on firm performance", *Telematics and Informatics* 35, pp. 2038–2053
- Wang, Y. and Hsieh, C. (2018) "Explore technology innovation and intelligence for IoT based eyewear technology", *Technological Forecasting & Social Change*, 127, pp. 281–290.

DARE YOU SIT IN A STRANGER'S CAR?

Levente Lengyel

*Department of Business Statistics and Economic Forecasting, Faculty of Economics
University of Miskolc, Miskolc, Hungary
lengyel.levente@uni-miskolc.hu*

Abstract: *The research focused on sharing economy which had been gained more and more ground in recent years and receiving increased media coverage nowadays. The paper briefly introduces the sharing economy, and a popular field of it, the car- and ridesharing. With the help of recent statistics, the interested make sure this is a continuously improving area. The aim of this paper is to analyse the question, is the trust an important factor in the operation of sharing economy. By the sort summary of latest and commonly cited literature, the reader can get a snapshot, that what kind of methods are used to analyse this question.*

Keywords: trust, sharing economy, carsharing, ridesharing

JEL classification: O17; M21

1. Sharing economy

Almost everybody has several underutilised, unused resource and asset. For sure, that everybody has books, CDs and DVDs that did not have been used for many years ago. But if we think about our household, we can find many other assets also, like a drilling machine or any other tool from shed, which are usually used 1-2 times a year. A commonly cited author, Rachel Botsman (2010) mentioned in her TED speak, that an average drilling machine is used around 12 to 13 in its entire lifetime. Of course, anybody can say, that most of product around our household are not designed for more usage than the average. But based on this example we can easily realise, that we own underutilised resources. Aside from the consumer goods and luxury products in most cases exactly our need is not to own the product, but also the result which can be reach by it. The real need is to access to the resource.

The sharing economy offers a new way to access and to improve the utilisation of unused assets. Some author mentioned that sharing economy is a new phenomenon (Möhlmann & Geissinger, 2018; Hawlitschek, et al., 2016). Benjaafar, et al. (2019) said it's not a new concept.

In my opinion sharing has been exist centuries ago, but the recent technological improvements and the internet makes possible to extend it and changed the way, which causes it to be create the sharing economy. The participants can collaborate through the internet, the systems use different platforms, like websites or mobile applications. A lot of author analysed and tried to define sharing economy in last years, but still don't have a widely accepted definition.

The system allows the owners to rent their unused resources, and the non-owners to access these when they need it. In my previous work I collected many definitions, but most of them are focused on different aspect of sharing economy. As a conclusion of these, I suggested this general definition in my previous work: *"Sharing economy is an economic-, redistribution system which contains every innovative business model, platform and technology which serve the lending, exchanging, borrowing and gifting of*

tangible and intangible unused resources, with extensive access and high effectiveness.” (Lengyel, 2017, p.123)

2. Mobility solutions in sharing economy

Based on the previous example you can imagine, that we have unused resources on several fields of life. For this reason, different kind of platforms were organised to satisfy the participants needs. Literature group the services in different way (Owyang, et al., 2014; Schor, 2014; Böcker & Meelen, 2016). Owyang and his co-authors (2014) defined 5 different area: (1) goods, (2) services, (3) transportation, (4) space and finally (5) money. One of the most popular field relates to the mobility. In this area the literature distinguishes two main subcategories. One of this is the ridesharing, the other one is the carsharing.

Carsharing means usually in-day renting services, when a user can temporarily rent a vehicle. In Europe widely spread members of this market are the Car2Go, DriveNow or in Hungary the MOL Limo, GreenGo. In compare with original sharing economy solutions, where the company provide only the platform on which partners can interact with each other, these services are offered by companies, it means that this is a B2C relationship. Service providers offers not only platforms, but the resources too. Usually the user must sign up to the service before he wants to use it, but after this process it is possible with a mobile application. The services are different, but in most cases, the renting fees are accounted on minutes based, which covers every cost like parking fees or fuel costs. The payment transactions made by different online payment solution.

Ridesharing differs from general taxis, usually the passenger and driver have the same place of origin and destination and mostly the fee covers only the driver's cost (Chan & Shaheen, 2012). They can arrange trip on a mobile app, like Uber, Lift or Oszkár.com in Hungary. Statista (2019b) says that the global revenue in this sector will increase to double from 2018 to 2023, when it was 153 591 million US\$. Parallel based on their forecast the number of users also will increase from 858,3 to 1531,5 million. While the average revenue per user also will increase by 3,1% yearly on average between 2018 and 2023. They surveyed, that most of the users (37,7%) are aged between 25 – 34 years. 41,6% of the users have high income, and 54,8% of them are male. In Hungary they estimate the number of users 630 thousand persons, but they expect that it will increase to 2023 to 1 million persons (Statista, 2019a). From the viewpoint of both participant – driver and passenger – two or more stranger travel together in one car, who does not know each other. It raises the question of trust. In every case the platforms offer rating systems for the users, to check the partner's reliability. But is these systems serves enough information?

3. Question of trust

Botsman & Rogers (2010) said, trust play a crucial role in sharing economy. The integration of social media platforms and ridesharing platform can solve the problem of trust related with ridesharing (Chaube, et al., 2010).They also conclude, that the willingness to use ridesharing is determined by the trust in many cases. Chan & Shaheen (2012) also mentioned, that social networks can help to build trust among participants.

Ert and his co-authors (2016) analysed the personal photos importance on Airbnb platform. They revealed, that the users require this information to make good decisions. Möhlmann & Geissinger (2018) mentioned, that in the sharing economy the

relationship between trustor and trustee is extended with a third party. The participants must trust in the platform also.

Hawlitcshek and his co-authors (2016) developed a research model and a questionnaire to assess the role of trust in different dimensions. They distinguished three different targets of trust: (1) peer, or partner, (2) platform and (3) product. Based on Gefen & Straub (2004) work, they analysed trust in different targets as a multidimensional construct, where the dimensions are: ability, integrity and benevolence as it can be seen on the following figure.

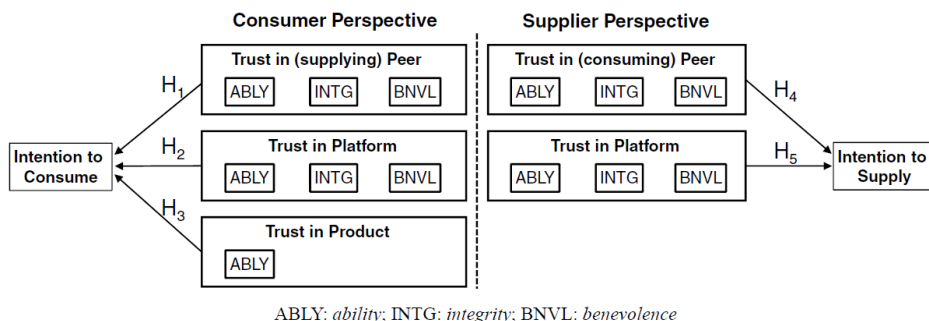


Figure 1: Research model

Source: Hawlitcshek, et al. (2016) p. 29

Based on their sample they concluded, that higher level of trust will increase the intention to use the services for both sides, as user and provider.

Kong and his co-authors (2019) developed a research model in which they hypothesised, that trust is affected by the social referrals, information quality and transaction safety. They tested their complex model with variance-based partial least square method.

As the previous researches highlighted, the trust is an important factor. A transparent operation and a well-functioning rating system can help a lot to increase the nonuser's trust in sharing economy. These systems are frequently used in e-commerce and provide many useful information for customers. On the internet can be found many kind of product's rating, user experience and different kind of subjective reviews. Of course, platform user's ratings also can be found.

In Hungary the Oszkar.com a popular ridesharing service, which also use its own rating system. After every transaction, the passengers can rate the drivers regarding to 6 viewpoints: (1) comfort, (2) accuracy, (3) kindness, (4) safety, (5) communication, (6) flexibility. Of course, the driver also makes a review for the passenger, but they leave only textual evaluation with a 3-scale (positive, neutral or negative) rating. Thus, before a new journey either user can check the partner's profile where the latest transactions ratings can be seen. The webpage produces a short summary statistic of driver's rating. What's more Oszkar.com generates some summary about the interactions on the site. In my opinion there are three important data between them: (1) rate of failed travels, (2) response rate (3) average response time. This three information can help a lot to evaluate the next travel companion, and Rachel Botsman (2010) named this kind of information as reputation capital, whose importance will be incremental in the near future.

4. Summary

In this paper I briefly introduced the sharing economy and a popular segment of it, car- and ridesharing solutions. The above-mentioned researchers analysed the question of trust in different ways, but discoverable, that the quantitative methods are gaining popularity in this field. Based on my previous research and experience I can say, that trust plays a very important role in this field. It is necessary to improve the people's trust in sharing economy and create well-functioning rating systems, because this network can work only if it reaches the critical mass.

References

- Benjaafar, S., Kong, G., Li, X. & Courcoubetis, C., 2019. Peer-to-Peer Product Sharing. In: M. Hu, ed. *Sharing Economy. Springer Series in Supply Chain Management vol 6.* Cham: Springer.
- Botsman, R., 2010. *The case for collaborative consumption.* Sydney: TEDxSydney.
- Botsman, R. & Rogers, R., 2010. *What's Mine Is Yours: The Rise Of Collaborative Consumption.* USA: Harper Business.
- Böcker, L. & Meelen, T., 2017. Sharing for people, planet or profit? Analysing motivations for intended sharing economy participation. *Environmental Innovation and Societal Transitions*, Volume 23, pp. 28-39.
- Chan, N. D. & Shaheen, S. A., 2012. Ridesharing in North America: Past, Present, and Future. *Transport Reviews*, 32(1), pp. 93-112.
- Chaube, V., Kavanaugh, A. L. & Perez-Quinones, M. A., 2010. Leveraging Social Networks to Embed Trust in Rideshare Programs. *2010 43rd Hawaii International Conference on System Sciences*, pp. 1-8.
- Ert, E., Fleischer, A. & Magen, N., 2016. Trust and reputation in the sharing economy: The role of personal photos in Airbnb. *Tourism Management*, Volume 55, pp. 62-73.
- Gefen, D. & Straub, D. W., 2004. Consumer trust in B2C e-Commerce and the importance of social presence: experiments in e-Products and e-Services. *Omega*, 32(6), pp. 407 - 424.
- Hawliitschek, F., Teubner, T. & Weinhardt, C., 2016. Trust in the Sharing Economy. *Die Unternehmung*, 70(1), pp. 26-44.
- Kong, Y., Wang, Y., Hajli, S. & Featherman, M., 2019. In Sharing Economy We Trust: Examining the Effect of Social and Technical Enablers on Millennials' Trust in Sharing Commerce. *Computers in Human Behavior*, Volume In Press.
- Lengyel, L., 2017. Együtt vagy külön? - A közösségi gazdaság elterjedtsége Borsod-Abaúj-Zemplén megyében. In: T. Kékesi, B. G. Vadászné & Z. Dabasi-Halász, eds. *DIÁKTUDOMÁNY: A MISKOLCI EGYETEM TUDOMÁNYOS DIÁKKÖRI MUNKÁIBÓL.* Miskolc-Egyetemváros: Miskolci Egyetem, pp. 122-127.
- Möhlmann, M. & Geissinger, A., 2018. Trust in the Sharing Economy: Platform-Mediated Peer Trust. In: *Cambridge Handbook on Law and Regulation of the Sharing Economy.* Cambridge: Cambridge University Press.
- Owyang, J., Samuel, A. & Greenville, A., 2014. *Sharing is the New Buying*, Canada: Vision Critical.
- Schor, J., 2016. Debating the Sharing Economy. *Journal of Self-Governance and Management Economics*, 4(3), pp. 7-22.
- Statista, 2019a. *Ride Hailing - Hungary.* [Online] Available at: <https://www.statista.com/outlook/368/139/ride-hailing/hungary> [Accessed 05 11 2019].
- Statista, 2019b. *Ride Hailing - worldwide.* [Online] Available at: <https://www.statista.com/outlook/368/100/ride-hailing/worldwide> [Accessed 05 11 2019].

MIGRATION, INNOVATION AND ECONOMIC DEVELOPMENT

Elena-Alexandra Sinoi

Doctoral School of Economics and Business Administration, West University of Timisoara, Timisoara, Romania

elena_sinoi@yahoo.com

Abstract: *In an increasingly interconnected world, international migration became a topic of great interest, with complex effects on technological innovation, especially in host countries. The international labour force mobility generates both opportunities and challenges that any nation should take into consideration. This research investigates the extent to which immigration influences innovation and eventually, economic development, for 104 NUTS 1 macro-regions in the EU, over the period 2003 to 2012. The econometric estimations of the international migration impact on intellectual assets (measured by the number of patents) highlight a positive nexus, strengthened when taking into account different factorial combinations related to the economic dimension, such as: financial support in research and development (especially in the business sector and in the whole sector), investment in tertiary education, as well as the share of scientists and engineers in population. In order to boost knowledge creation and per capita GDP, EU should not only attract scientists and engineers migrants, but also provide further financial support in research and development.*

Keywords: International Migration, Innovation, Economic Development, EU-28.

JEL classification: F22, O31, O11.

1. Introduction

In the current framework of globalization era, migration represents a topic of great interest from economic, social, cultural and political point of view, requiring in-depth and continuously research at regional, national and global level. International labour mobility influences the innovation and the development of an economy, generating both opportunities and challenges that any nation should take into consideration, in order to obtain maximum of benefits, as well as mitigating the negative effects that can arise from the migration movements.

2. Literature Review

In the new age dominated by mass migration, with plenty of highly qualified individuals, the migration-innovation nexus has become a topical issue in several related disciplines and fields (Lissoni, 2016).

In an empirical research Niebuhr (2010) highlights that the diversity of knowledge and capabilities of labour force from different cultural backgrounds boosts regional innovation. The downsides of diversity, such as costs caused, for instance, by communication barriers are outweighed by the benefits induced in R&D sectors.

In a similar way, Bove and Elia (2017) emphasise that cultural heterogeneity has a more consistent impact on GDP per capita in developing countries.

Ozgen, Nijkamp & Poot (2011) found that the diversity of migrants intensifies knowledge formation, spill-overs, improves entrepreneurship and leads to economic growth. Also, immigrants from different cultural backgrounds and with higher education record a larger number of patent applications.

Ferrucci and Lissoni (2019) reveal that more diverse teams spur creativity and produce patents of higher quality. Their research suggests that mixed local-foreign inventor teams with different nationalities always outperform both local ones and same-nation foreign teams.

Hunt and Gauthier-Loiselle (2009) gauge the impact of highly qualified immigrants on patenting per capita. A college graduate immigrant contributes at least twice as much to patenting, in comparison with a native counterpart. Also, some immigrants may indirectly enhance innovation by providing complementary skills and knowledge to native workers (e.g. positive spill-overs on fellow researchers).

In U.S. skilled immigration have a significant and positive influence on patenting, but smaller in comparison to foreign graduate students. Also, the skills of foreign workers could be complementary to natives (Chellaraj, Maskus, and Mattoo, 2008).

In European recipient countries, highly skilled foreigners contribute to knowledge creation, measured by the number of patents and by the number of citations to published articles (Bosetti, Cattaneo and Verdolini, 2015).

Fassio, Montobbio and Venturini (2019) emphasises the positive impact of skilled migration on innovation, in 16 European industries. The intensity is stronger in industries with low levels of over-education, high levels of FDIs and openness to trade and in industries with ethnic diversity.

Highly skilled immigration foster innovation, as they are more creative, generate new ideas, set up new businesses and may be less risk averse in comparison to indigenous peers (Poot, 2007).

In origin countries the emigration of highly skilled individuals represents a loss of the most talented workers. However, it can't be denied that migrants are an important channel for transferring technology from destination countries back to origin countries. They also send remittances and invest (Gelb and Krishnan, 2018).

The knowledge acquired abroad can be transferred back to the origin country and can be exploited under sound IPR institutions (Naghavi and Strozzi, 2015).

3. Research Methodology

The general purpose of the research is to evaluate the relationship between migration, innovation and regional economic development for 104 NUTS 1 macro-regions in the EU, between 2003 and 2012. The study is based on the development of econometric models on panel data, using a set of indicators specific to the process of immigration, innovation, economic development. The research uses classical models with fixed effects (non-spatial models), as well as spatial models. In order to verify if spatial autocorrelation exist, Moran Index will be applied. Data processing is computed using STATA 14 econometric package.

3.1. Regression model, endogenous and exogenous variables

$$\ln(Nr_patents) = \beta_0 + \beta_1 \ln(GDP_cap) + \beta_2 \ln(Edu_tert) + \beta_3 \ln(Edu_sec) + \beta_4 \ln(Pop_dens) + \beta_5 \ln(BERD) + \beta_6 \ln(HERD) + \beta_7 \ln(Empl) + \beta_8 \ln(Immigr) + \varepsilon$$

The endogenous variable is the number of patents and the exogenous variables are GDP per capita (pps), tertiary and secondary education (%), population density

(inhabitant/km²), intramural R&D expenditure on higher education and business sector (%GDP), employment (%) and immigration (stock).

4. Discussion of Findings

4.1. Identification of spatial autocorrelation (Moran Index)

In order to measure if spatial autocorrelation exist, Moran Index will be applied.

Table 1 Moran's I, Measure of global spatial autocorrelation, EU 28, year 2012

Variables	I	E(I)	sd(I)	z	p-value*
gdp_eur_cap	0.541	-0.010	0.056	9.746	0.000
gdp_pps_cap	0.569	-0.010	0.056	10.304	0.000
edu_tert	0.463	-0.010	0.056	8.374	0.000
edu_sec	0.784	-0.010	0.056	14.155	0.000
patents_epo	0.456	-0.010	0.057	8.238	0.000
innov_intl	0.648	-0.010	0.057	11.613	0.000
gerd_gdp	0.472	-0.010	0.056	8.560	0.000
berd_gdp	0.469	-0.010	0.056	8.494	0.000
immigr	0.147	-0.010	0.055	2.857	0.004

Source: personal processing in STATA 14

$I > E(I)$, which evidences a positive spatial autocorrelation and that close macro-regions have similar values for variables of interest. The highest positive spatial autocorrelation is recorded at secondary education ($I=0.784$). Also, $z > 1.96$ (the table value) and $p\text{-value} < 0.05$, which justifies the spatial correlation test.

4.2. Spatial models with endogenous variable = number of patents

As the spatial dependence is validated, it is justified to compute spatial models.

Table 2 Spatial influences on the number of patents for Autoregressive, Error, Durbin and Autocorrelation Spatial Models (SAR, SEM, SDM and SAC)

	SAR (1)	SEM (2)	SDM (3)	SAC (4)	SAR (5)	SEM (6)	SDM (7)	SAC (8)	SAR (9)	SEM (10)	SDM (11)	SAC (12)
gdp_cap	0.323*** (6.25)	0.323*** (6.24)	0.303*** (5.82)	0.321*** (6.20)	0.321*** (6.31)	0.321*** (6.22)	0.318*** (5.96)	0.309*** (6.19)	0.317*** (6.03)	0.305*** (5.91)	0.301*** (5.40)	0.280*** (5.86)
immigr	0.130*** (5.22)	0.130*** (5.28)	0.108*** (4.37)	0.126*** (5.10)	0.0989*** (4.01)	0.0989*** (3.97)	0.0973*** (2.78)	0.0687*** (3.81)	0.0934*** (2.96)	0.0744*** (2.95)	0.0736*** (2.15)	0.0540*** (2.86)
berd_gdp	0.236*** (5.81)	0.249*** (6.08)	0.256*** (6.27)	0.248*** (6.07)								
gerd_gdp			0.637*** (6.90)	0.657*** (7.15)	0.657*** (7.88)	0.756*** (7.14)	0.664*** (8.05)	0.776*** (8.24)	0.796*** (8.50)	0.841*** (8.19)	0.790*** (8.19)	
edu_tert	0.374*** (3.85)	0.463*** (4.16)	0.761*** (5.25)	0.495*** (4.36)	0.424*** (3.49)	0.486*** (3.85)	0.486*** (5.76)	0.866*** (4.04)	0.518*** (4.08)	0.504*** (4.34)	0.549*** (5.44)	0.572*** (4.46)
empl_tecno	0.549*** (6.17)	0.687*** (3.58)	0.771*** (4.97)	0.646*** (5.51)								
rd_pers_business				0.122** (2.90)	0.119** (2.89)	0.108* (2.36)	0.113* (2.29)					
rd_pers_education				0.377*** (4.99)	0.372*** (4.96)	0.371*** (4.87)	0.362*** (4.87)					
rd_pers_total							0.706*** (5.96)	0.676*** (5.77)	0.601*** (4.88)	0.652*** (5.52)		
educ_sec	0.00803* (1.99)	0.00815* (2.05)	0.00760* (2.07)	0.00800* (2.14)								
pop_dens							-1.003* (-2.10)	-1.074* (-2.24)	-1.143* (-2.39)	-1.097* (-2.29)		
Spatial rho	0.370* (2.36)	0.397* (2.07)	-0.287 (-1.47)	0.334* (2.14)		0.543** (3.02)	-0.323 (-1.66)	0.355* (2.29)		0.525** (2.89)	-0.269 (-1.30)	
lambda	0.630*** (3.90)	0.795*** (5.02)		0.572*** (3.48)		0.572*** (4.79)	0.775*** (3.35)	0.548*** (3.35)		0.730*** (4.10)		
N	1040	1040	1040	1040	1040	1040	1040	1040	1040	1040	1040	1040

Source: personal processing in STATA 14

All spatial models highlight that innovation output is positively influenced by GDP per capita, immigration, investments in R&D, tertiary education and employment in technology and knowledge-intensive sectors. The ρ coefficient from SAR and SDM models are statistically significant, indicating a pure spatial effect on the dependent variable. This emphasises that the number of patents in a region influences of the number of patents from neighboring regions. In SAC ρ coefficient do not have statistical

significance. Parameters λ associated with error terms, record positive and significant values in SEM and SAC, indicating a spatial effect of the residuals.

5. Conclusion

This study has examined whether immigrants, especially highly qualified, enhance innovation output and contribute to economic growth, on a date panel of 104 macro-regions from EU, between 2003 and 2012. The results indicate a positive nexus between skilled migrants and innovativeness of the regions, strengthened when taking into account different factorial combinations related to the economic dimension, such as: financial support in research and development, investment in tertiary education, as well as the share of scientists and engineers in population. In order to boost knowledge creation and per capita GDP, EU should not only attract scientists and engineer migrants, but also provide further financial support in research and development. To sum up, migration is a process that needs to be managed and not a problem that needs to be solved (GD No. 780, 2015).

References

- Bosetti, V., Cattaneo, C., and Verdolini, E. (2015) "Migration of skilled workers and innovation: A European Perspective", *Journal of I.E.*, Vol.96, No.2, pp 311-322.
- Bove, V. and Elia, L. (2017) "Migration, Diversity, and Economic Growth", *World Development*, Elsevier, Vol. 89, No. C, pp, 227-239.
- Chellaraj, G., Maskus, K. E., and Mattoo, A. (2008) "The contribution of skilled immigration and international graduate students to U.S. innovation", *Review of International Economics*, Vol. 16, No. 3, pp. 444-462.
- Fassio, C., Montobbio, F., and Venturini, A. (2019) "Skilled migration and innovation in European industries", *Research Policy*, 48(3), 706-718.
- Ferrucci, E. and Lissoni, F. (2019) "Foreign inventors in Europe and the United States: Diversity and Patent Quality", *Research Policy*, Vol. 48, No. 9, pp 1-1.
- GD No. 780 of September 23 (2015) "National Strategy on immigration between 2015-2018", M.O., No. 789 of October 23, 2015.
- Gelb, S. and Krishnan, A. (2018) "Technology, migration and the 2030 Agenda for Sustainable Development", ODI Briefing Note. London.
- Hunt, J. and Gauthier-Loiselle, M. (2009) "How Much Does Immigration Boost Innovation?", *IZA Discussion Paper*, No. 3921.
- Lissoni, F. (2016) "Migration and Innovation Diffusion: An Eclectic Survey", *Cahiers du GREThA*, Université de Bordeaux, No. 11.
- Naghavi, A. and Strozzi, C. (2015) "Intellectual property rights, diasporas, and domestic innovation", *Journal of International Economics*, Vol.96, No.1, pp.150-161.
- Niebuhr, A., (2010) "Migration and innovation: Does cultural diversity matter for regional R&D activity?", *Papers in Regional Science*, Vol. 89, No. 3, pp. 563–585.
- Ozgen, C., Nijkamp, P., and Poot, J. (2011), "Immigration and Innovation in European Regions", *Norface migration Discussion Paper*, No. 8.
- Poot, J. (2007), "Demographic Change and Regional Competitiveness: The Effects of Immigration and Ageing", *Population Studies Centre*, No. 64.

THE LINK BETWEEN FINANCIAL INCLUSION AND EDUCATION IN EUROPEAN COUNTRIES

Nicoleta Gianina Bostan (Motoaşcă)

*Faculty of Economic Sciences and Business Administration,
Doctoral School, „Transilvania” University of Brasov, Brasov, Romania
nicoleta.motoasca@unitbv.ro*

Abstract: *In this paper we analysed a series of data, from 33 European countries, in order to study the correlation between the level of education, rate of poverty and the level of financial inclusion. Data on education and rates of poverty contain Eurostat information on: adult participation in learning of population aged 25 to 64 (2018), early leavers from education and training of population aged 18 to 24, (2018), overcrowding rate by poverty status of population (2017) and people at risk of poverty or social exclusion (2017).*

The data analysed regarding the financial inclusion include information published in the World Bank study, the Little Data Book on Financial Inclusion on each country about: the persons who have an account, differentiated by age, education and income categories, saved for old age, coming up with emergency funds if possible, main source of emergency funds from family or friends, paid utility bills in the past year: using an account or cash only and people used debit card to make a purchase (2017).

Keywords: financial education; financial literacy; financial inclusion.

JEL classification: A13; A29; D14; I20

1. Introduction and motivation

In recent years we have a growing interest in financial education, an interest triggered with the financial crisis of 2008. Interest arises from the desire to see an informed way in which individuals manage their personal budgets and make decisions regarding their financial resources. In this direction we have several initiatives at global and European levels; we will mention only a few. In 2011, The Global Financial Literacy Excellence Center (GFLEC) was established in the US to research and find solutions to increase the degree of financial education. The Personal Finance index, developed by GFLEC, measures the level of financial literacy of adult US citizens. At European level, the Organization for Economic Co-operation and Development set up a recommendation guide on financial literacy and education. EU member states have set strategies to increase the level of financial education in order to increase the well-being and financial protection of the population.

States, members of EU, developed with the help from central banks national strategies to increase the financial knowledge among the citizens. The European Economic and Social Committee periodically are publishing results of financial education strategies within the EU.

In Romania, in July 2018, a collaboration agreement was signed between the Ministry of National Education, the Ministry of Public Finance, the National Bank of Romania, the Financial Supervision Authority and the Romanian Banking Association entitled the National Strategy for Financial Education.

The reference literature on the topic of financial literacy is relatively recent: Lusardi

and Mitchell (2011), Campbell (2006), Fernandes et al. (2014), Badarinza et al. (2016). The World Bank supports programs to increase the level of financial education and periodically measures the population's access to financial products through the Global Findex indicator. The purpose of the research is to investigate whether or not there is a link between the level of education in certain countries and the degree of access and use of simple financial products such as having an account, saving on a financial institution, using a debit card or making bill payments without cash.

2. Data

The statistical data used for the analysis come from Eurostat for adult participation in learning of population aged 25 to 64 (2018), (AP); early leavers from education and training of population aged 18 to 24, (2018), (EL); overcrowding rate by poverty status of population (2017), (PR); and people at risk of poverty or social exclusion (2017), (SE).

From World Bank, The Global Findex database 2017 is percentage data, by country, for people with an account grouped by age, education and income: account (% age 15+), (ACC); young adults account (% ages 15-24), (YAC), older adults account, (% ages 25+), (OAC), with primary education or less (% ages 15+), (PAC); with secondary education or more (% ages 15+), (SAC). Also from this research are the means data by each of 33 country for people who saved for old age (% age 15+) (SVD); coming up with emergency funds possible (EFP); main source of emergency funds: family or friends (% able to raise funds, age 15+), (FFF); paid utility bills (PUB); using an account (% paying utility bills, age 15+), (UTC); debit card used to make a purchase in the past year (% age 15+), (DCU).

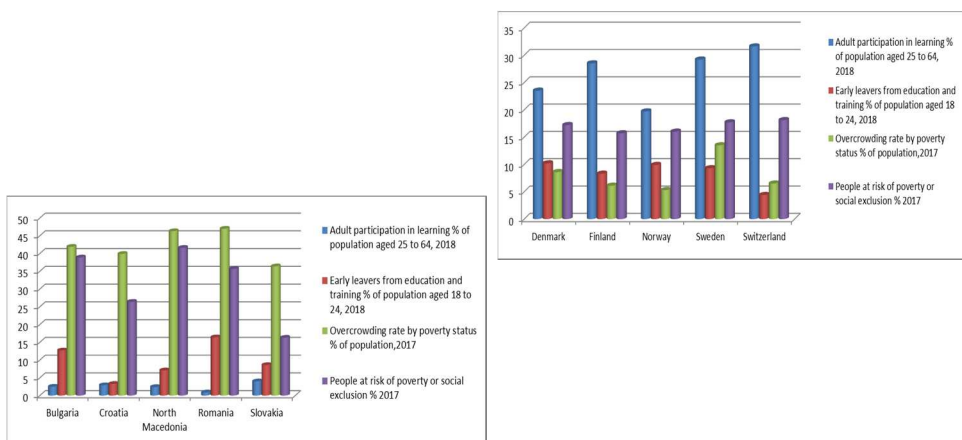


Figure 1: 5 countries with lowest and 5 with highest % of adult in education

Source: authors, based on data provided by Eurostat

We can observe high percentages in poverty indicators for the countries with low percentages in adults involved in education.

Note that adult participation in learning of population; varies from 0.9% in Romania to 31.6% in Switzerland and early leavers from education and training; varies from 3.3% in Croatia to 31% in Turkey.

The level of overcrowding rate by poverty status varies between 2.8% in Cyprus and Ireland and Serbia with 56.2% of population.

People at risk of poverty or social exclusion vary between Czech Republic, 12.2% of population and North Macedonia with 41.6%.

Table 1: Education & Financial Inclusion,

Countries	AP	EL	PR	SE	ACC	YAC	OAC	PAC	SAC	SVD	FFP	UTC	DCU
Austria	15.1	7.3	15.1	18.1	98.16	92.59	99.09	95.96	98.55	56.63	21.23	92.41	76.57
Belgium	8.5	8.6	5.1	20.3	98.64	94.32	99.30	100.00	98.84	51.58	12.98	97.34	85.86
Bulgaria	2.5	12.7	41.9	38.9	72.20	43.46	75.10	42.14	84.53	19.77	47.19	13.95	34.96
Croatia	2.9	3.3	39.9	26.4	86.14	46.86	92.66	62.02	95.92	28.45	43.43	69.00	52.69
Cyprus	6.7	7.8	2.8	25.2	88.72	73.18	92.16	81.09	91.32	28.70	34.77	47.54	45.17
Czechia	8.5	6.2	16	12.2	80.99	41.18	87.55	36.83	91.22	41.05	25.24	74.95	64.00
Denmark	23.5	10.2	8.6	17.2	99.92	100.00	99.90	100.00	99.91	49.70	14.44	94.32	91.98
Estonia	19.7	11.3	13.5	23.4	97.99	91.93	98.83	94.38	99.05	35.04	28.91	94.47	84.81
Finland	28.5	8.3	6.1	15.7	99.79	100.00	99.76	99.21	100.00	39.03	10.74	97.27	93.01
France	18.6	8.9	7.7	17.1	94.00	70.33	97.91	79.82	97.23	31.90	15.63	82.98	80.93
Germany	8.2	10.3	7.2	19	99.14	97.03	99.51	100.00	99.30	54.65	22.77	91.82	81.78
Greece	4.5	4.7	29	34.8	85.47	49.07	90.79	86.90	84.98	8.36	63.32	31.58	48.79
Hungary	6	12.5	40.5	25.6	74.94	60.09	77.18	55.83	82.77	21.11	37.52	35.17	54.11
Ireland	12.5	5	2.8	22.7	95.34	83.75	97.55	84.24	96.20	40.32	18.31	79.40	74.92
Italy	8.1	14.5	27.1	28.9	93.79	63.91	97.66	92.01	96.31	30.76	22.01	62.93	72.87
Latvia	6.7	8.3	41.9	28.2	93.22	75.70	95.36	79.39	97.21	21.13	40.99	81.57	72.84
Lithuania	6.6	4.6	23.7	29.6	82.88	63.77	86.25	61.33	87.25	33.37	40.20	48.12	46.99
Luxembourg	18	6.3	8.3	21.5	98.77	94.69	99.46	95.73	99.37	44.40	19.33	90.18	84.93
Malta	10.8	17.5	3	19.3	76.57	45.33	82.49	59.26	88.34	15.62	55.01	36.95	34.27
Netherlands	19.1	7.3	4.1	17	97.36	97.45	97.35	97.73	97.32	49.45	11.80	51.56	70.15
North Macedonia	2.4	7.1	46.3	41.6	99.64	100.00	99.58	100.00	99.61	42.81	8.35	94.61	93.50
Norway	19.7	9.9	5.3	16	99.75	100.00	99.71	98.69	100.00	61.45	10.50	93.16	94.37
Poland	5.7	4.8	40.5	19.5	86.73	62.63	90.52	65.50	89.99	20.06	14.34	73.52	73.42
Portugal	10.3	11.8	9.3	23.3	92.34	79.41	94.19	87.57	95.50	32.48	15.38	70.03	71.87
Romania	0.9	16.4	47	35.7	57.75	51.06	58.88	31.86	69.52	19.06	58.43	11.84	23.80
Serbia	4.1	6.8	56.2	36.7	71.44	33.34	76.93	51.48	80.55	18.04	59.47	36.99	37.66
Slovakia	4	8.6	36.4	16.3	84.18	54.58	89.57	49.18	91.99	42.05	34.99	70.69	65.78
Slovenia	11.4	4.2	12.8	17.1	97.53	100.00	97.30	94.42	98.54	41.07	18.47	70.01	79.91
Spain	10.5	17.9	5.1	26.6	93.76	65.32	97.99	89.02	95.84	26.36	20.77	78.45	76.15
Sweden	29.2	9.3	13.5	17.7	99.74	99.09	99.85	96.85	100.00	56.96	11.79	90.77	91.64
Switzerland	31.6	4.4	6.5	18.1	98.43	89.41	99.81	96.72	99.32	61.41	11.40	80.08	81.44
Turkey	6.2	31	43.7	41.3	68.59	55.93	71.94	57.44	74.02	20.05	58.87	45.38	39.41
United Kingdom	14.6	10.7	3.4	22	96.37	83.52	98.71	90.22	97.77	42.56	13.05	86.85	82.40

Source: Eurostat & World Bank, The Global Findex database



3. Factor analysis

Table 2: Correlation Matrix, factor analysis

	AP	EL	ACC	SVD	EFP	PUB	DCU
Correlation AP	1.000	-.145	.627	.640	.667	.407	.641
EL	-.145	1.000	-.434	-.314	.090	-.110	-.323
ACC	.627	-.434	1.000	.717	.525	.422	.919
SVD	.640	-.314	.717	1.000	.688	.440	.737
EFP	.667	.090	.525	.688	1.000	.510	.545
PUB	.407	-.110	.422	.440	.510	1.000	.485
DCU	.641	-.323	.919	.737	.545	.485	1.000

a. Determinant = .006

Source: based on World Bank, The Global Findex database 2017

Table 3 shows correlation between some of the variable. Values above 0.6 shows high correlation between variable adult involved in learning (AP), saved for old age (SVD), people with account (ACC), emergency funds possible (EFP), debit card used

(DCU). People who saved for old age (SVD) is more likely to use a debit card for payments (0.737), to be an adult interested in education (0.640) and have an emergency fund (0.688). Variable named early leavers from education (EL) has a poor correlation with the other variables. The highest correlation observed is between AP and DCU, which is normal, people with debit card have an account. Measure of sampling adequacy from KMO and Bartlett's test is 0.752, value is considered middling. Significance level is zero; a level less than 0.05 it means there is no scope for reduction.

4. Conclusion

The analysis shows strongest correlation between the variable adult participation in learning and the degree of financial inclusion measured by the population with a bank account and those who have saved for old age and a strong negative correlation between early leavers from education and people with an account or savings. Countries with big percent of adult involved in learning have also high percent of account owner, high involving in education is generally related with high level of financial inclusion. We can find exceptions, like North Macedonia, with second the lowest percent in adults in high education, big percents in poverty indicators and high percent of accounts owner. It means that the analysis should take in to consideration to research causes for atypical situation.

References

- Badarinza, C., Campbell, J.Y., and Ramadorai, T. (2016), *International comparative household finance*, Annual Review of Economics
- Campbell, J. Y. (2006), *Household finance*, The Journal of Finance
- Fernandes, D., Lynch, J.G., and Netemeyer, R.G. (2014), *Financial literacy, Financial education, and downstream financial behaviors*, Management Science
- Lusardi, A. and Mitchell, O.S. (2011), *Financial literacy around the world: an overview*, Journal of Pension Economics and Finance
- Lusardi, A. and Mitchell, O.S. (2014), *The economic importance of financial literacy. Theory and evidence*. Journal of Economic Literature
- [Online], Available: <https://ec.europa.eu/eurostat/data/database>
- [Online], OECD Council, (2016), *Recommendation of the Council on Good Practices for Financial Education*, <http://www.oecd.org/daf/fin/financial-education/Recommendation-on-FL-and-FE.pdf>
- [Online], World Bank, (2018), *The Little Data Book on Financial Inclusion 2018*. World Bank, Washington, DC, <https://openknowledge.worldbank.org/handle/10986/29654>

THE ANALYSIS OF ROMANIAN ECONOMY FROM 1993 TO 2018. A NEW RECESSION?

Ionela-Cătălina Zamfir

The Bucharest University of Economic Studies, Bucharest, Romania

ionela.zamfir@csie.ase.ro

Abstract: *Is Romanian economy close to a recession period? This question represents the main hypothesis that is verified in this article. Data analysis techniques are used to analyze the dataset that has 23 relevant macroeconomic variables that show, by their dynamics, the phase of the economic business cycle. Principal components analysis reduces the number of variables from 23 to 6, cluster analyses show the optimum number of clusters and the class membership for each year. The analysis of each class suggest that each time period has an entire economic cycle with recession, expansion boom and depression. The main conclusion of this research is that the tested hypothesis is confirmed and that there are strong signs for a new recession in Romania, that comes after a depression period of few years (that already started in 2018).*

Keywords: recession, PCA, cluster analysis, economic cycles, Romania.

JEL classification: C38; E32

1. Introduction and literature review

The analysis of Romanian economic cycles is a challenge due to multiple decisions that can influence the economic growth. The political decisions after 1989 have a major impact in economic growth, as well as uncertainty about global economy and European economical decisions. Multiple analyses were made about Romanian economy. In a study from 2010 (Caraiani, 2010), the Markov Switching approach is used on monthly data from 1991 to 2008 to "model the business cycles in Romanian economy" (Caraiani, 2010). The author concludes that the recession started in fall 2008 have a duration of 18 months, until half of 2010. In 2012, another study (Voda, Chiriac, 2012) analyze the economic business cycles for France and Romania using the Hodrick-Prescott filter. The authors main conclusion is that the economic crises are unavoidable and that the cyclicality is the most important element to balance the economy.

A year later, one study (Pavelescu, 2013) analyze the economic cycles from period 1859-2010 in Romania, taking into account the decennial and bi-decennial economic cycles as well as economic history of Romania, while in another study (Visan & Ailenei, 2013) authors use the random recursive algorithm BBQ on monthly data from January 1991 to May 2012 "in order to identify specific characteristics of the business cycle" (Visan & Ailenei, 2013). In 2014, Savoiu and Manea consider "gross domestic product (GDP) price consumer index (PCI) or cost of living index (CLI), and debt (public or external)" for a long period of time, until 2013 to analyze the Kondratiev cycle for Romanian economy. In the same year (Iosif, 2014), the forecast of Romanian economic growth for 2013 of less than 2% was exceeded and reached of 3.5%, so the author analyzed the economic business cycles and the conditions for a sustainable economic development. On the other side, several years later, studying the

sustainability of economic growth based on consumption (Adomnicai, 2019), the author analyze what model or theory (among the models of economic growth) fits best for Romania.

2. Methodology and dataset

The main methodology used to analyze the economic cycles is based on data analysis methods like variables reducing techniques (principal components analysis - PCA) and classification methods (Ward's hierarchically method and K-Means algorithm). The dataset used is for Romania, yearly data from 1993 to 2018 and the source of data is the WorldBank website. The 23 variables considered refer all to the main indicators that show the state of the economy at a certain level of the economic cycle. The variables and the code for them are: GDP per capita growth (annual %)-V1; GDP growth (annual %)-V2; Trade (%GDP)-V3, Adjusted savings: education expenditure (%GNI)-V4; Unemployment, total (% of total labor force)-V5; Labor force, total - V6; Inflation, consumer prices (annual %)-V7; Taxes on income, profits and capital gains (% of revenue)-V8; Revenue, excluding grants (% of GDP)-V9; Social contributions (% of revenue)-V10; Adjusted savings: consumption of fixed capital (% of GNI)-V11; Final consumption expenditure (%GDP)-V12; Households and NPISHs final consumption expenditure (% of GDP)-V13; General government final consumption expenditure (% of GDP)-V14; Domestic credit provided by financial sector (% of GDP)-V15; Real interest rate (%)-V16; Lending interest rate (%)-V17; Deposit interest rate (%)-V18; Foreign direct investment, net inflows (%GDP)-V19; Foreign direct investment, net outflows (% of GDP)-V20; Changes in inventories (current US\$)-V21; Broad money growth (annual %)-V22; Broad money (%GDP)-V23.

3. Application results

The graph presenting the GDP growth and further results are presented below.

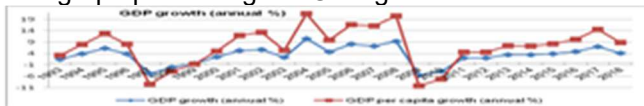


Figure 1: GDP growth for period 1993-2018

Source: author's Excel computation using data from <https://www.worldbank.org/>

The figure from above show the evolution of GDP growth and GDP per capita growth from 1993 to 2018. The main two recession periods are visible from 1997 to 1999 and from 2009 to 2011. Also, the cyclicity of GDP growth is visible, being almost sinusoidal, for a period of about a decade.

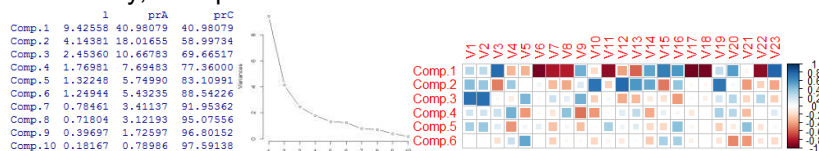


Figure 2: PCA results

Source: R output using data from <https://www.worldbank.org/>

In the above picture, the PCA results are presented. According to several criteria (like Kaiser criteria - used for standardized data or Scree plot criteria), the best number of components to use in further analyses is 6. The first 6 principal components have the variance higher than one and are significant. The amount of information in the first 6

components is 88.5% while the loss of information is about 11.5%. The correlations between original variables and principal components (the figure in the right) presented as squares graph can show the significance of each component like: the first principal component W1 can be named as financially and monetary component, W2 is the consumption and investments component, W3 is the economic growth, W4 is represented by revenues, W5 is education expenditure and changes in inventories, while W6 is unemployment. Each component "takes" information from each of all 23 variables, but the correlations with variables are used to describe the economy level more accurate.

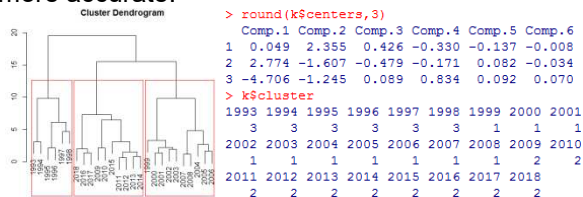


Figure 3: Clustering results

Source: R output using data from <https://www.worldbank.org/>

The results for cluster analysis show that 3 classes are sufficient (Ward's method classification tree) to group the selected years. The K-Means results for 3 classes are presented in the right side. Using the centre for each class and considering the interpretation for each principal component, one class (period 1993-1998) is characterized by big inflation and taxes, big interest rates (for lending and deposit), low broad money, low trade, low domestic credit, big unemployment rate. This class has the transition years from the political regime before 1989 (communism) to the new political regime after 1989, as well as the first recession after 1989, that started in 1997. Another class (period from 1999 to 2008) have lower unemployment rate than the first period and is characterized by big economic growth. In this time, after the recession from 1997-1999, the Romanian economy had the highest economic growth based in general by consumption and lower interest rates. The final period, from 2009 to 2018 show that the economy was strongly affected by the crisis started in 2008, facing the second big recession in 2009-2011, but started to recover from it in the next years.

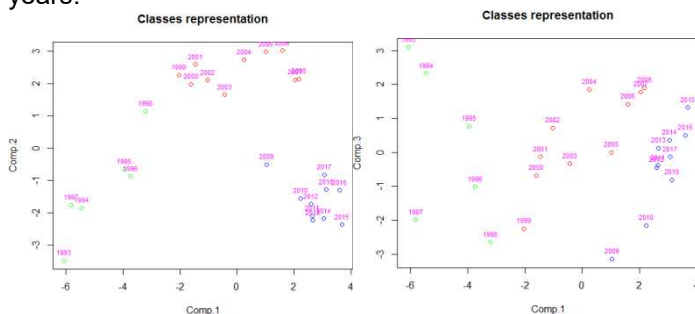


Figure 4: Classes graphically representation in principal components plan

Source: R output using data from <https://www.worldbank.org/>

The graphs from above is the graphically representation of classes in principal components plan. The three classes are visible in both graphs (W1 vs. W2 and W1 vs. W3). In the first graph, in the last period (from 2009 to 2018), there are high values for financial and monetary and low values for consumption and investment. In the second

graph, for the same period, there are low values for economic growth for 2009, 2010, 2017 and 2018 and big values for 2014, 2015 and 2016.

4. Conclusions and further research

The principal components analysis is used here to reduce the number of variables from 23 to 6, with total information of 88.5%, while the cluster analyses performed on principal components group the time period into 3 major classes that correspond each to an economic cycle. The first time period of 6 years (1993-1998) has, in short time, expansion, boom, depression and recession. The next cycle from 1999 to 2008 has expansion, boom, depression and recession, while the last time period starts with recession and ends with depression (the GDP growth decreased from almost 7% in 2017, to about 4% in 2018). Therefore, there are major signs that a recession is about to start in Romania in 2020 or 2021, taking into consideration the cyclicity of economy.

References

- Ioan Valentin Adomnicai. (2019), The Sustainability of Economic Growth Based on Consumption. The Case of Romania. *Ecoforum Journal*, Vol. 8, Issues 1(18).
- Caraiani, Petre, (2010). "Modeling Business Cycles In The Romanian Economy Using The Markov Switching Approach," *Journal for Economic Forecasting*, Institute for Economic Forecasting, vol. 0(1), pages 130-136.
- Moldovan Iosif (2014), "The Limits" of Economic Growth in Romania, *Procedia Economics and Finance*, Volume 16, 2014, Pages 308-313, ISSN 2212-5671.
- Florin-Marius Pavelescu, (2013), "Some Considerations Regarding The Economic Cycles In Romania During The 1859-2010 Period," *Romanian Journal of Economics*, Institute of National Economy, vol. 36(1(45)), pages 92-113, June.
- Gheorghe Savoiu & Constantin Manea, (2014). "Kondratiev type cyclicity of the Romanian economy, grounded in three key statistical indicators: GDP, CPI or CLI and debt," *Romanian Statistical Review*, vol. 62(1), pages 3-22, March.
- Țigănescu I.E., Roman, M. (2005), *Macroeconomie. O abordare cantitativa*, Economica, București, 2005, România.
- Vișan C., Ailenei D., (2013), Forecasting of the economic crisis using business cycles patterns, *Theoretical and Applied Economics*, Vol.XX(2013), No.10(587).
- Voda, Ana Iolanda & Chiriac, Cătălin. (2012). The Impact that Business Cycles Has on the Development of Different Economies: Evidence from France and Romania, *Journal of Economics Studies and Research*, Vol. 2012 (2012), Article ID 227551.
<http://business-review.eu/money/br-analysis-romanias-economy-facing-uncertain-end-to-two-decade-growth-cycle-194160>
<https://www.worldbank.org/>
https://europa.eu/european-union/about-eu/what-the-eu-does-for-its-citizens_ro
<https://www.zf.ro/opinii/cea-mai-mare-diferenta-fata-de-criza-din-1997-4918680>
https://www.researchgate.net/publication/268047888_SCURT_ISTORIC_AL_CRIZEL_OR_ECONOMICE_MONDIALE_DIN_SECOLUL_XX_PANA_IN_PREZENT_INVESTITIILE_-SOLUTIA_ANTICRIZA_PENTRU_ROMANIA

EXTREME WEATHER MEASURES IN ROMANIA – THE IMPLICATIONS IN AGRICULTURE

Bolohan Ana-Maria

Academy of Economic Studies, Bucharest Romania

anabolohan@yahoo.com

Abstract: *The term "climate" generally defines the average profile of weather conditions in a given climate area, determined over a period of several years. The climatic conditions depend on the changes the energy balance (radiation) of the Earth playing an important role. In the last 150 years, an important role in changing the Earth's climate has been anthropic activity, which has directly participated in this change through greenhouse gas emissions. Stratospheric ozone layer acts as a filter for solar radiation in ultraviolet (UV) spectrum making life on earth possible. Greenhouse gases, which are naturally found in the atmosphere, keep the temperature at the surface of the earth at an average of 15°C, without these gases the average temperature of the earth would be about -20°C. Changes in gas concentration greenhouse gases in the atmosphere can dramatically interfere with the natural cycle of UV radiation, by changing the temperature, the carbon and water circuit, and therefore, changing the climate over the time. The global climate of the Earth has changed over time, knowing different cycles, climatic heating or cooling, which varies in duration (from several thousand to several millions of years) and their amplitude.*

Keywords: global warming; extreme temperatures; pollution; droughts; climate change

JEL classification: Q54

1. Climate change at the global level

The phenomenon of global warming has led to an increase in the frequency of extreme events, respectively more frequent situations with extreme temperatures, including heat waves, aggravation of drought in some regions, more abundant precipitation in other areas, melting of glaciers and arctic ice, as well as global growth of the average level of the seas and oceans.

The 4th IPCC Report mentions that the average global air temperature has increased by about 0.74°C over the last 100 years (1906 - 2005) compared to 0.6 °C for the period 1901-2000 (*IPCC Report, 2001*). Also, 11 of the last 12 years were among the hottest in the range of data recorded after 1850. Precipitation quantities have increased considerably in the northern hemisphere, and in the southern one, drought periods have become more frequent.

The report estimates that, if no measures are taken to reduce greenhouse gas emissions, the global average temperature will increase in this century by 1.8 - 4.0°C. Regarding precipitations, for the period 2090-2099 (compared to 1980-1990), during the summer, decreases of 10 - 30% are expected, with greater certainty in southern Europe. This rainfall deficit will affect all areas of activity, mainly agriculture, population and ecosystems.

It is foreseen that in the 21st century the dry areas from the higher northern latitudes will suffer the most pronounced warming, on the other hand the South Pacific and parts of the North Atlantic will be the least affected by this process.

The average global warming at the end of the 21st century (2090-2099) compared to the current period 1980-1990 is projected to be between 1.8°C and 4.00°C, depending on the greenhouse gas emission scenario considered.

From the analysis of changes in the average annual temperature in Europe, it is expected that, for the period 2020-2029, a warming between 1.0°C and 1.5°C is expected compared to the current period 1980-1990.

Regarding precipitations, for the period 2090-2099 (compared to 1980-1990) there are estimated increases of 5-10% in the winter season, and during the summer, for the same period, decreases of 10-30% are expected, with certainty largest in southern Europe.

The increase of resources especially in the deficient areas will accentuate the consequences of the lack of water, both at global and regional level, the effects being amplified by pollution and inadequate technologies. The rainfall deficit will affect all areas of activity, mainly agriculture, population and ecosystems.

1.1. Climate change in Romania

The climatic data of the last century show a progressive heating of the atmosphere and a significant reduction of the amounts of precipitation. At the level of the 20th century, the average annual temperature in the country increased by 0.5°C in almost the whole country, from a seasonal point of view, with significant warnings especially in the winter and summer season. In terms of rainfall, during the period 1901-2000 there was a general tendency to decrease the annual amounts of precipitation, after 1960, at the same time, an intensification of the precipitation deficit especially in the south of the country.

In Romania, compared to the current period 1980-1990, the same average annual heating is expected as that projected for Europe, namely:

- between 0.5°C and 1.5°C for the period 2020-2029;
- between 2.0°C and 5.0°C for 2090-2099.
- from a rainfall point of view, for the period 2090-2099, over 90% of the models project droughts pronounced during the summer, especially in the south and south-east of the country, with negative deviations from the current period greater than 20%.

Frequency (%) of dry / rainy years:

The significance of the rainfall regime:	Frequency (%) of dry / rainy years (south and southeast Romania):	
<ul style="list-style-type: none"> • <350 mm / excessively dry 	< 350 l/mp / highly droughts years	0 – 5%
<ul style="list-style-type: none"> • 351 - 450 mm / droughts 	351 – 450 l/mp / droughts years	10 – 15%
<ul style="list-style-type: none"> • 451 - 600 mm / moderate droughts 	451 – 600 l/mp / moderate droughts years	55 – 60%
	601- 700 l/mp optimal years	15 – 20%
	> 700 l/mp / rainy years	5 – 10%

1. Meteorological extremes phenomena in romania / 1961 – 2000:

- significant increase of the average summer minimum temperature
- significant increase of the average of the maximum winter and summer temperatures (up to 2°C in S and SE / summer);
- intensification of the aridity phenomenon in the SE country;
- increasing the maximum duration of the intervals without precipitation in SV (winter) and V (summer);
- increased annual frequency of very rainy days (the highest 12% daily quantities) and extremely rainy (the highest 4% daily quantities) for certain regions during 1946-1999;
- significant increase in the number of days with haze in most regions of the country, determined by a tendency to move to spring of the last haze day;
- decreasing the number of days with snow cover.

2. Adapting to climate change

The climatic data of the last century show a progressive heating of the atmosphere and a significant reduction of the amounts of precipitation, elements considered limiting for all the specific activities in the agricultural field.

In the coming decades, the implications of global warming in the industrial economy, water supply, agriculture, biodiversity will be very evident. At global level, therefore, heating has the effect, increasing the frequency and intensity of extreme events, especially drought and floods. The causes that lead to the occurrence of these phenomena are obviously related both to the climate, as well as to the human interventions, respectively the faulty use of land and water resources, improper agricultural practices, deforestation, overweight and, last but not least, air and soil pollution.

Adaptation to climate change will benefit in particular from the experience gained from the reaction to extreme climate events, through the implementation of plans to adapt and manage the risks of climate change.

3. Conclusions:

Global warming is a real phenomenon and directly influenced by anthropogenic activities (influence of human activities is considered the dominant cause of global warming since the middle of the 20th century). In the long term, climate change and the effects of global warming will worsen. In the past, humanity could have affected the Earth's climate from "ignorance", but ignorance can no longer be an excuse today. To understand the negative effects of global warming, understanding is required its mechanisms, reducing greenhouse gas emissions and adapting human beings activities to climate change. Limiting / mitigating the effects of climate change require a substantial reduction of greenhouse gas emissions, but also efforts in this direction. It is necessary to reduce the emissions of greenhouse gases generated by the industry producing electricity at values close to zero. Integrating mitigation and adaptation measures to climate change into strategies. Romania's national policies and programs will be an important step in its development oriented towards ecological economic growth, with low carbon emissions.

4. Acknowledgements:

This research was supported through the ICAR FORUM EDITION - Risk Management in Agriculture PARLIAMENT HOUSE, OCTOBER 14, 2008, BUCHAREST financed by MMDR, ANM, ASE Bucharest – EAM Department

References:

<http://www.ipcc.ch>, published in 2007

Climate Change 2007: Contribution of the working group for the physical sciences at the 4th IPCC Assessment Paper, Nairobi, February 6, 2007

Adaptation to climate change in Europe, EU

2007. http://ec.europa.eu/environment/climat/adaptation/index_en.htm

EEA, Projected impacts from climate change in different EU regions, 2007

Impact of climate change on the communities in the Center Region, ADR, 2016

A MATHEMATICAL MODEL OF UNEMPLOYMENT

Patricia Ardeljan

Doctoral School of Economics and Business Administration, Faculty of Economics and Business Administration, West University of Timisoara, Romania

patricia.ardeljan@outlook.com

Abstract: *In this paper, a mathematical model is proposed for the analysis of the unemployment, that considers the following three variables: number of unemployed, number of temporary employed or self-employed and the number of permanent employees. The mathematical model is described by a system of differential equations. I assume that the movement from unemployed to employee is delayed and there is a deferral in the emigration decision of the unemployed too. Numerically, the equilibrium point is determined and its stability is investigated.*

Keywords: Employed persons; unemployed persons; labor market; temporary employed or self-employed; ageing population; inequality.

JEL classification: C62; C63; E24; J21

1. Introduction

Nowadays, the economic crisis and economic inequalities are closely linked to the demographic development issues tending to be a permanent concern for most countries of the world. All European economies, for instance, are faced with the rapid aging process on one hand, and high numbers of young unemployed on the other hand. The reasons of young generations' unemployment range from globalization processes and structural changes of the labor market to issues generated by the emergence by new, oft times Artificial Intelligence technologies. Hence, governments around the world struggle with the negative influences generated by these three major issues: unemployment, aging process of the population and inequalities.

Unemployment has a series of negative economic, social and psychosocial consequences. Next to the issue of unemployment, corruption, criminality, and migration play a role and have to be controlled as sources of mass discontent, and attempts to enter at least the 'grey' labor market. In brief, for avoiding social isolation, and the loss of a generation or more encapsulating human capital, the numbers of unemployed should be reduced, foremost by valorizing education. For approaching the above-mentioned issues of migration (Harding, Neamțu, 2018), unemployment (Pathan, Bhathawala, 2016), criminality (Sundar et al. 2018), different mathematical models have been proposed and developed.

Misra and Singh (2011) suggested a nonlinear mathematical model of unemployment used in earlier studies from 2003 based on Nikolopoulos and Tzanetis, where in the aftermath of a natural disaster they proposed a model for housing allocation for people who lost their homes. The model proposed by Nikolopoulos and Tzanetis (2003) is described by a system of ordinary differential equations with three variables: nonpermanent employees, employed individuals and jobless individuals. In 2015, Pathan and Bhathawala inspired by Misra and Singh (2011) developed a mathematical model for better clarification of the unemployment issues, and of the self-employment solution. Pathan and Bhathawala (2015) reflected on the following variables: number of

jobless persons, number of working persons and the number of new vacancies created by government interventions. Using the ideas from these papers, I developed a mathematical model of unemployment with time delay. The paper is organized as follows: Section 2 presents the mathematical model and the numerical simulation is carried out in Section 3. Conclusions are given in Section 4.

2. Mathematical model

In this mathematical model, I focused on three variables: number of unemployed denoted by $x_1(t)$, number of temporary employed or self-employed $x_2(t)$ and the number of permanent employees $x_3(t)$. In this category of unemployed the rate of input is denoted by A . The rate of movement from unemployed class to permanent employed class is proportional to k_1 , and from unemployed to temporary employed or self-employed to k_2 . The rate of movement from temporary employed or self-employed class to permanent employed class is proportional to k_3 . The rate of migration and death of the unemployed is denoted by α_1 . The total number of permanent jobs available is $(a_{30} - x_3)$ and temporary $(a_{20} - x_2)$. The constants α_2 and α_3 represent the retirement, migration or mortality rate of temporary/independent and permanent employees. Also, employed people can often leave the job or be fired, thus becoming unemployed with constant γ_2 , as well as temporary/self-employed employees with γ_1 . I assume that the movement from unemployed to employee is delayed, but there is a delay in the decision emigration of the unemployed too.

The mathematical model is described by a system of differential equations of the first order:

$$\frac{dx_1(t)}{dt} = A - k_1 x_1(t - \tau)(a_{30} - x_3(t)) - k_2 x_1(t)(a_{20} - x_2(t)) - \alpha_1 x_1(t - \tau) + \gamma_1 x_2(t) + \gamma_2 x_3(t)$$

$$\frac{dx_2(t)}{dt} = k_2 x_1(t)(a_{20} - x_2(t)) - k_3 x_2(t)(a_{30} - x_3(t)) - \alpha_2 x_2(t) - \gamma_1 x_2(t) \quad (1)$$

$$\frac{dx_3(t)}{dt} = (k_1 x_1(t - \tau) + k_3 x_2(t))(a_{30} - x_3(t)) - \alpha_3 x_3(t) - \gamma_2 x_3(t)$$

Suppose that the movement from unemployment to permanent employment is made with a time delay τ . Moreover, the person's decision to migrate affects the unemployed class after a period τ .

I am interested in determining numerically the equilibrium point and its stability.

3. Numerical Simulation

The following values for parameters are considered (Misra et al. 2017): $A=65000$, $k_1=0.000025$, $k_2=0.000015$, $k_3=0.00001$, $a_{30}=25000$, $a_{20}=30000$, $\alpha_1=2$, $\alpha_2=0.9$, $\alpha_3=0.8$, $\gamma_1=0.0009$, $\gamma_2=0.0008$.

The equilibrium point is given by (x_{10}, x_{20}, x_{30}) where x_{10} , x_{20} and x_{30} are the solutions of the algebraic system:

$$A - k_1 x_1(a_{30} - x_3) - k_2 x_1(a_{20} - x_2) - \alpha_1 x_1 + \gamma_1 x_2 + \gamma_2 x_3 = 0$$

$$k_2 x_1(a_{20} - x_2) - k_3 x_2(a_{30} - x_3) - \alpha_2 x_2 - \gamma_1 x_2 = 0$$

$$(k_1 x_1 + k_3 x_2)(a_{30} - x_3) - \alpha_3 x_3 - \gamma_2 x_3 = 0$$

In the particular case the equilibrium point is: $x_{10} = 499.38995$, $x_{20} = 11126.48725$, $x_{30} = 67484.22698$.

If there is no delay, the characteristic equation is:

$$x^3 + 2.629095217x^2 + 2.225352715x + 0.6107971003=0$$

with the negative solutions:

$$-0.6568979987, -0.7797732406, -1.192423978$$

In this case, in the neighborhood of the equilibrium point, the system (1) is locally asymptotically stable, that is convenient from the economic point of view.

If there is time delay ($\tau > 0$), then the critical value of this parameter to switch the stability is:

$$\tau_0 = \frac{1}{\omega_0} \left[\arccos \left(\frac{A_1}{A_2} \right) + 2k\pi \right]$$

where

$$A_1 = (q_2 \omega_0^2 - q_0)(r_0 - r_2 \omega_0^2) + r_1 \omega_0 (\omega_0^2 - r_2 \omega_0^2), A_2 = (r_0 - r_2 \omega_0^2)^2 + r_1^2 \omega_0^2$$

and ω_0 is the positive solution of

$$x^6 + 0.199323499 x^4 + 0.2807751628 x^2 - 0.2093170686 = 0.$$

In our case $\omega_0 = 0.6334111509$ and $\tau_0 = 4.055803715$. For the critical value of the time delay the solution of system (1) is oscillatory and it is represented in the following figures:

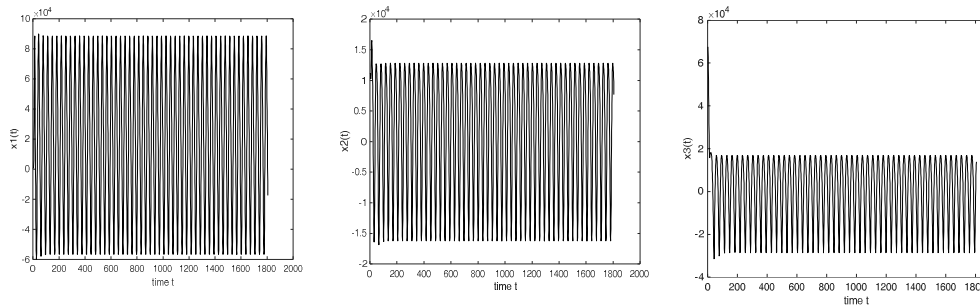


Figure 1. The oscillatory orbits $(t, x_1(t))$, $(t, x_2(t))$, $(t, x_3(t))$, for unemployment, temporary or self-employed and employment when the bifurcation parameter reaches the critical value

Source: Own processing

In Figure 1 we can notice that when the time of movement from unemployment to permanent employment takes a critical value, the number of unemployed, temporary employed or self-employed and permanent employees oscillate. This fact is not convenient from economic point of view.

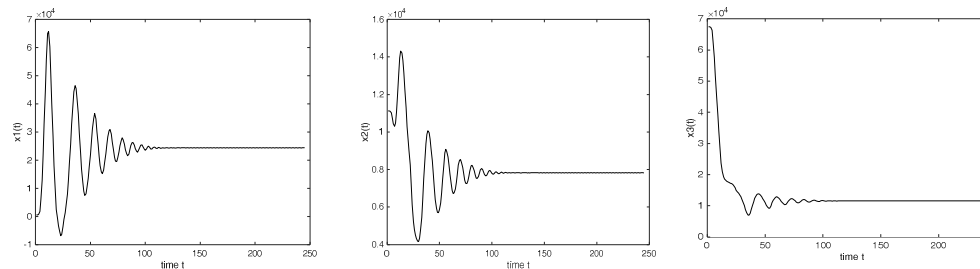


Figure 2. The orbits $(t, x_1(t))$, $(t, x_2(t))$, $(t, x_3(t))$, for unemployment, temporary or self-employed and employment when the bifurcation parameter is less than the critical value.

Source: Own processing

In Figure 2 we can notice that when the time of movement from unemployment to permanent employment is less than the critical value, the orbits of the system are local asymptotically stable. This situation is favorable from economic point of view.

4. Conclusion

The present paper presents a mathematical model with time delay for the analysis of unemployment. Three variables are taken into account: number of unemployed, number of temporary employed or self-employed and the number of permanent employees. The mathematical model is described by a differential system with time delay. There is only one positive equilibrium point. The time delay τ is chosen as bifurcation parameter and the critical value is found so that the system is oscillatory in the neighborhood of the equilibrium point. For any value less than critical value, the system is locally asymptotically stable, that is a favorable situation from economic point of view. A more developed qualitative analysis will be done in our future paper.

References

- Cismaș, L.M., Curea-Pitorac, R.I. and Vădăsan, I. (2019) *The impact of remittances on the receiving country: some evidence from Romania in European context*, Economic Research-Ekonomska Istraživanja
- Harding, L. and Neamțu, M. (2018) *A Dynamic Model of Unemployment with Migration and Delayed Policy Intervention*, Computational Economics, Vol. 51, No. 3, 03.2018, p. 427–462.
- Misra, A.K. and Singh, A.K. (2011) *A mathematical model for unemployment*, IJTPC,4(2011), 2322-3138.
- Misra, A. K. , Singh, A. K. and Singh, P. K. (2017) *Modeling the Role of Skill Development to Control Unemployment*, Differential Equations and Dynamical Systems.
- Nikolopoulos, C.V. and Tzanetis, D.E. (2003) *A model for housing allocation of a homeless population due to natural disaster*, Nonlinear Anal., 4(2003), 561-579.
- Pathan, G.N. and Bhathawala,P.H. (2015) *A Mathematical Model of unemployment with effect of self employment*, IOSR-JM,11(6)(2015), 37-43.
- Pathan, G.N. and Bhathawala,P.H. (2016) *Unemployment – Discussion with a Mathematical Model*, International Journal of Business Management and Economics Research. ISSN 2349-2333 Volume 3, Number 1 (2016), pp. 19-27
- Sundar, S., Tripathi, A. and Naresh, R. (2018) *Does Unemployment Induce Crime in Society? A Mathematical Study*, American Journal of Applied Mathematics and Statistics. 2018, 6(2), 44-53.

LONG-TERM MALE UNEMPLOYMENT IN ROMANIA AND SERBIA

Lavinia Stan

Doctoral School, Faculty of Economic Sciences, University of Oradea, Romania

lavistan1357@gmail.com

Abstract: *Throughout history, Romania has gone through a series of difficult economic times. The period after the onset of the economic crisis can be characterized by uncertainty, increased inflation and unemployment, massive migration to Western countries. Also, Serbia's history has been marked by numerous military conflicts that have left their mark on the country's economic development and implicitly on the evolution of unemployment. The purpose of this article is to conduct a comparative analysis of long-term male unemployment between Romania and Serbia. We chose to observe long-term male unemployment because the social implications of this phenomenon are major. The period subject to the analysis is that of the year before the onset of the economic crisis and of the years preceding it, because then the largest fluctuations in the unemployment rate can be observed. The research results revealed major discrepancies between these two countries regarding the evolution of long-term unemployment among men.*

Keywords: unemployment, labor market, Romania, Serbia

JEL classification: B22, E24, F16, F40

1. Introduction

The non-overlap of the demand with the supply of labor force, numerically, but especially structurally, contributes to the emergence of unemployment, as a phenomenon with multiple implications on the development of society. The definitions attributed to unemployment reveal its complexity and different interpretation.

"Unemployment means the existence of a section of the labour force able and willing to work but unable to find gainful employment" (Bannock, Baxter, Davis, 2004: 391).

The International Labor Office defines as unemployed persons between the ages of 15 and 74 who meet the following criteria:

- do not have a job;
- in the conditions of finding a job, they are available to start the activity within the next two weeks;
- have been actively seeking a job for the last four weeks;(National Institute of Statistics, 2017)

As we can see from the definition given by the International Labor Office, in order to be classified as unemployed, those persons must be willing to start an active job search, assuming that they have registered their applications with the Employment Agencies. workforce. Law no. 76/2002, updated in 2019, stipulates that the person considered unemployed must meet certain conditions:

- "is looking for a job from the age of at least 16 years until the conditions of retirement are met;
- the state of health and the physical and mental capacities make it suitable for the provision of work;

- does not have a job, does not earn income or obtains, from activities authorized according to the law, incomes lower than the value of the reference social indicator of unemployment insurance and labor force stimulation, in force;
- it is available to start work in the next period, if a job is to be found; ” (The Official Monitor, 2019)

In the same law previously mentioned the long-term unemployed person is the unemployed person, ”for a period of more than 12 months, in the case of persons aged at least 25 years and for a period of 6 months, in the case of persons aged between 16 years and up to the age of 25” (The Official Monitor, 2019).

We can see that there is a difference between the lower limit regarding the age of the unemployed, while the International Labor Office considers that persons under the age of 15 can be classified as unemployed, the legislation in our country mentions that the minimum age is 16 years old. Due to this discrepancy in the interpretation of unemployment, there may be some differences in the calculation of the number of unemployed and the unemployment rate.”Long-term unemployment creates the highest economic, psychological, and social costs, both for the unemployed themselves and the society as a hole” (Bernanke, 2004, p. 469). Most of the time, people who are in long-term unemployment, having actively failed attempts, multiple in order to find a job, are in a state of discouragement, which causes them to give up, withdrawing their applications from the agencies for employment or even no renewal in certain situations.

2. Comparative analysis of long-term male unemployment

Throughout the period analyzed, unemployment in Serbia registered higher values than unemployment in Romania. The maximum values of the unemployment rate in the time period under observation were recorded in two consecutive years, 2011 and 2012. The highest unemployment rate registered in Romania after the onset of the world economic crisis was 7.4 percentage points, in 2011, 15.7% lower than in Serbia. The highest value of the unemployment rate in Serbia was 24.1%, at the end of 2012, 17.1 percentage points lower than in Romania.

Table 1: Unemployment rate registered in Romania and Serbia, 2007-2018

Years	Romania	Serbia
2007	6,4	18,1
2008	5,8	13,8
2009	6,9	16,3
2010	7,3	19,4
2011	7,4	23,1
2012	7,0	24,1
2013	7,3	22,3
2014	6,8	19,4
2015	6,8	17,8
2016	5,9	15,4
2017	4,9	13,6
2018	4,2	12,8

Source:National Institute of Statistics,_(2007-2018)
Eurostat, (2019)

In 2018, the lowest values of the unemployment rate were registered in both countries. In Romania, it was 4.2 percentage points, and in Serbia, 12.8 percentage points. We consider that Serbia had for the whole duration of the analysis high values of unemployment rate in comparison with Romania due to the adopted monetary and fiscal policies and the low wages, which decreased the purchasing power. The possibility of investing to create new jobs has diminished due to economic conditions.

Table 2: Comparison of long-term male unemployment rate (persons aged 15-74 years), Romania and Serbia

	2007	2012	2013	2014	2015	2016	2017
Romania	3,6	3,3	3,4	3,1	3,3	3,3	2,4
Serbia	12,7	18,1	16,0	12,2	10,7	9,6	8,0

Source: National Institute of Statistics, (2010,2014,2017)
Eurostat, (2019)

Paradoxically, long-term male unemployment rates in Serbia were lower than those of the opposite sex. In 2012, when there was a maximum unemployment rate, the difference between the female and male long-term unemployment rates in Serbia was 1.7 percentage points. In April 2012, the rate of long-term male unemployment was 19.3%, 1.4% lower than that of women. In October of the same year, the gender gap considering the unemployment rate was 2%, the long-term male unemployment rate decreased to 16.6% (Statistical Office of the Republic of Serbia , 2012). In 2017, the difference narrowed to a level of 0.6 percentage points. In Romania, the opposite is true, the rates of long-term female unemployment have been lower than those of the male gender, for the entire duration analyzed. Thus, in 2012, the long-term unemployment rate was 0.6 percentage points lower than that of unemployed men. This factual situation can be explained by observing the results of a study conducted in Novi Sad, the second city according to the size criterion in Serbia. Taking into account the gender characteristics of serbs, it has been established that men are more willing to travel in the interest of service, compared to women, using used cars four times more often. This increased flexibility of serbian men contributes to increasing the chances of finding a job. (Basarić et al., 2016).

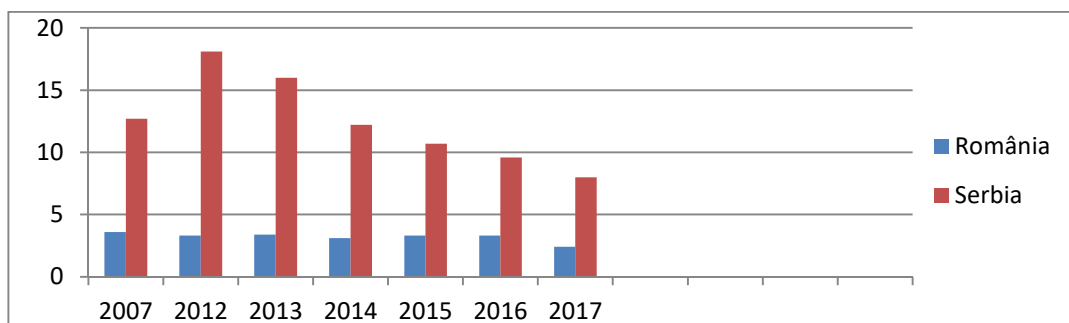


Figure 1: Long-term male unemployment rates in Romania and Serbia, 2007-2017

Source: National Institute of Statistics (2010,2014,2017)
Eurostat, (2019)

Another study carried out on the Serbian labor market conducted during the year of the onset of the economic crisis shows that women were disadvantaged when they wanted to change their employment status from unemployed or economically inactive.

Although the wages for women were lower than for men, we should take into account that the wages base for women was lower compared to that of the opposite sex (Blunch, NH. & Sulla, V., 2014). Research carried out in the Serbian labor market from 1996-2003 shows that the wage inequalities generated by the private sector in which male persons are engaged have been reduced with the passage of time. Other studies show that Serbian realities have followed the same trend in the coming years (Krstić, Litchfield, Reilly, 2007). The labor market in Serbia can be characterized by a stable formal sector with higher wages compared to the informal sector.

Another cause that may explain the high unemployment of Serbian women concerns the satisfaction of family roles. Andjelovic V. and Vidanovic S. (2014), shows that the status offered by the family is important and does not influence the occupational status, including those among the unemployed. Thus, men must financially support the family, as household managers.

3. Conclusion

The analysis of the data provided by the International Labor Office reveals that the evolution of long-term unemployment among men in Romania and Serbia follows an oscillating path. It is noted that Serbian men have a high unemployment rate, compared to men of Romanian origin. However, the analysis of the unemployment rate on the basis of gender in each country, reveals the fact that Serbian women occupy the majority share in the long-term unemployment rate in Serbia, and in Romania the number of unemployed men is higher than that of women. We consider that unemployment is lower among Serbian men, compared to Serbian women due to their increased flexibility, the importance that the Serbian people attach to respecting family roles, the wage inequalities that favor Serbian men. On the other hand, the factors that can explain the fact that the percentage of Romanian unemployed women is lower than the men of the same citizenship refers to the fact that they have become more independent, the number of women graduating from higher education has increased in recent years, as well as the incidence divorces.

References

- Andjelkovic, V. and Vidanovic, S. (2014) "The Satisfaction of The Family Roles in Serbian Employment and Unemployment Inhabitants", *Procedia - Social and Behavioral Sciences*, vol.159, December, pp. 625-629.
- Bannock, G., Baxter, R.E. and Davis, E. (2004) *The Penguin Dictionary of Economics*. London: Penguin Group.
- Basarić, V., et al. (2016) "Gender and age differences in the travel behaviour-a Novi Sad case study", *Transportation Research Procedia*, vol. 14, April, pp. 4324-4333.
- Bernanke, F. (2004) *Principles of economics*, Second Edition, New York: McGraw-Hill/Irvin.
- Blunch, NH. and Sulla, V. (2014) "World gone wrong: the financial crisis, labor market transitions and earnings in Serbia", *Economic Change and Restructuring*, vol.47, Issue 3, August, pp. 187-226. Available at: <https://doi.org/10.1007/s10644-013-9147-6> [Accessed: Econ Change Restruct (2014) 47: 187].
- EUROSTAT, [Online] Available at: https://ec.europa.eu/eurostat/statistics-explained/index.php/Enlargement_countries_-_labour_market_statistics#Unemployment_rates [Accessed: 13 October 2019].

National Institute of Statistics (2010,2014,2017), [Online] Available at: <http://www.insse.ro/cms/ro/content/arhiva-anuare-statistica>, [Accessed: 30 October 2018].

National Institute of Statistics (2007-2018) [Online] Available at: <http://www.insse.ro/cms/ro/tags/comunicat-ocuparea-si-somajul> [Accessed: 1 June 2019].

National Institute of Statistics (2017) [Online] Available at: http://www.insse.ro/cms/sites/default/files/field/publicatii/forta_de_munca_in_romania_ocupare_si_somaj_2017.pdf [Accessed: 30 October 2018].

Krstić,G., Litchfield,J. and Reilly,B. (2007) "An anatomy of male labour market earnings inequality in Serbia 1996-2003", *Economic Systems*, vol 31, Issue1, March, pp. 97-114.

Statistical Office of the Republic of Serbia (2012) [Online] Available at: <https://www.stat.gov.rs/en-us/oblasti/trziste-rada/anketa-o-radnoj-snazi/>[Accessed:2 November 2019]

The Official Monitor, (2019) [Online] Available at: <https://legislatiamuncii.manager.ro/a/24229/legea-somajului-2017-legea-nr-76-2002.html> [Accessed: 16 June 2019].

A COURNOT-BERTRAND MODEL WITH DIFFERENTIATED PRODUCTS

Ciprian Rusescu

Economic Cybernetics and Statistics Doctoral School, Bucharest University of Economic Studies, Romania

rusesuciprian18@stud.ase.ro

Abstract: *One of the most known game theory model in imperfect competition is Cournot model which offer an output equilibrium solution, while Bertrand model, advocating for price competition, indicates an equilibrium solution in terms of price. The goal of this paper is to analyze a duopoly market where a Cournot behavior is adopted by one firm and a Bertrand behaviour by the other one. Both firms survive on the market and a stable equilibrium will be manifested if there is sufficient product differentiation. In a homogenous products scenario, the Cournot-type firm will produce the perfectly competitive output level, the Bertrand-type firm will leave the market, the selling price will match the marginal cost and duopoly profit will be zero. Even with just one firm on the market, the simple threat of a Bertrand – type potential competitor, warrants a very prudential behavior while also further ensuring the perfect competitive outcome level.*

Keywords: Cournot-Bertrand model; product differentiation; oligopoly theory

JEL classification: C72; D01; D43; L13

1. Introduction

The history of oligopoly theory begins with Cournot classic model (1838), who derived the Nash equilibrium in a static duopoly game where firms are producing perfectly homogeneous goods, choosing also the output level simultaneously, in full awareness of the market conditions (demand and price). In equilibrium, the price level gets lower than the monopoly case, but higher than marginal cost. Bertrand (1883) analyzed the same game as Cournot, but choosing the price strategy instead of output one. He has found another Nash equilibrium, where the price is matching the marginal cost and the firms profit is zero. These basic models highlight the idea that the choice of price or output as strategic variable, in an oligopoly where exists strategic interaction, has a huge impact on the Nash equilibrium

In the last period, an increasing interest on the static Cournot-Bertrand model has been noted. As its name suggest, the model consider one firm which competes in terms of output (Cournot type) and a second one, competing in price terms (Bertrand type). Singh and Vives (1984) prouved that under certain conditions of cost and demand, if two firms can choose to compete in price or output, the dominant strategy for both is to compete in output rather than price (Cournot model), in substitute products scenario. Lately, Häckner (2000), Zanchettin (2006), Arya et al. (2008), and Tremblay et al. (2009) explain how exeactly institutional and technological conditions as well as demand assymetries can modify firm payoffs, so that optimality will be reflected in Bertrand or Cournot-Bertrand model.

Considerind the wide range of theoretical possibilities, Kreps and Scheinkman (1983) affirm that firms decision of competing in output or price terms is lastly an empirical question. In the real market, all three behavior's type (Cournot, Bertrand, and Cournot-

Bertrand) could be found. Flower producers set quantities, while hotels set prices. In the Japanese electronic industry, Panasonic set quantities whilst Sanyo set prices (Sato, 1996). Starting from here, any future research on the Cournot-Bertrand model will be warranted and could also offer a better understanding of oligopoly markets.

Tremblay and Tremblay (2011) investigate the Cournot-Bertrand model, interesting results emerging from their work: in homogeneous products case, Cournot-type firm produces the competitive level of market output, whilst Bertrand-type firm leaves the market. The simple threat of a Bertrand-type potential competitor, ensures the perfectly competitive outcome, proving the dramatic effect this one can have on the market power.

In the next chapter will be studied the impact of product differentiation degree on a Cournot-Bertrand static equilibrium model, being highlighted certain interesting aspects such as stability, market surviving potential, the product differentiation influence on Nash equilibrium theory, etc. The principles of the related mathematic model are also described below.

2. The model

The used background present two producers, i and j , competing on the same market, establishing simultaneously their own strategies. First one choose to adopt a Cournot behaviour, therefore competing in terms of quantity, whilst the second adopt a Bertrand behaviour, competing in price. The common aim is to maximize their own satisfaction (profit maximisation), while fully aware of market conditions.

The products may differ by certain features whilst producers can have a high appetite for variety, as per Beath and Katsoulacos (1991). A good example is the real scenario of consumer dilemma, where ask to choose to spend some money in a fast – food or in a coffee shop. Those one may differ in geographic location, service quality, atmosphere and despite the fact that any consumer will always prefer a certain type of service over the other one, he decide to try both services in a certain period of time.

We consider the substitutes products scenario, where above mentioned type of differentiation can be translated into a linear demand system, as found in Dixit (1979), Singh & Vives (1984), Beath & Katsoulacos (1991), Imperato et all (2004), Tremblay (2011).

The inverse demand functions are:

$$\begin{aligned} p_1 &= a - q_1 - dq_2 \\ p_2 &= a - q_2 - dq_1 \rightarrow q_2 = a - p_2 - d * q_1 \end{aligned}$$

where $a > 0$ and $d \in [0, 1]$. If $d=1$, homogeneous products scenario can be noted whilst each one acts as monopolists when $d=0$. Thus, d is an index, whose value is inversely proportional with differentiation degree (if d value increases, differentiation diminishes). It reflects the nature of the products as well, positive values being specific for substitute products, negatives values for complements, whilst zero values highlights independent products. Demand function for a certain product, decreases in its price, but increases/decreases in competitor's price, in substitute/complement products scenario.

In our model, the demand system in strategic variables, q_1 and p_2 is:

$$\begin{cases} p_1 = a - ad + (1 - d^2)q_1 + dp_2 \\ q_2 = a - p_2 - dq_1 \end{cases}$$

Costs of production is considered to be linear and identical for both firms c , matching also marginal cost. Thus, the profit function for firm i is:

$$\pi_i = (p_i - c)q_i, (\forall) i = \overline{1,2}, c \in (0; a)$$

Marginal profit expressions represent the starting point in the best-reply functions revealing

$$r_1 : p_2 = \frac{c+ad-a}{d} + \frac{2(1-d^2)q_1}{d} \quad r_2 : p_2 = \frac{a+c}{2} - \frac{dq_1}{2}$$

and further to Nash equilibrium values determination:

$$p_1^* = \frac{a(2-d-2d^2+d^3) + c(2+d-d^2-d^3)}{4-3d^2} \quad p_2^*$$

$$= \frac{a(2-d-d^2) + c(2+d-2d^2)}{4-3d^2}$$

$$q_1^* = \frac{(a-c)(2-d)}{4-3d^2} \quad q_2^* = \frac{(a-c)(2-d-d^2)}{4-3d^2}$$

$$\pi_1^* = \frac{(a-c)^2(2-d)^2(1-d^2)}{(4-3d^2)^2} \quad \pi_2^* = \frac{(a-c)^2(2-d-d^2)^2}{(4-3d^2)^2}$$

We further use Dixit's necessary and sufficient stability condition (1986), in order to analyze the Nash equilibrium stability: $|\pi_{ii}| > |\pi_{ij}|$, where $\pi_{ii} = \frac{\partial^2 \pi_i}{\partial p_i^2}$ iar $\pi_{ij} =$

$$\frac{\partial^2 \pi_i}{\partial p_i \partial p_j}, \quad i, j = \overline{1,2}$$

$$\begin{cases} \frac{\partial^2 \pi_1}{\partial q_1^2} > \frac{\partial^2 \pi_1}{\partial q_1 \partial p_2} \\ \frac{\partial^2 \pi_2}{\partial p_2^2} > \frac{\partial^2 \pi_2}{\partial p_2 \partial q_1} \end{cases} \implies \begin{cases} |-2(1-d^2)| > |d| \rightarrow 2(1-d^2) > d \rightarrow 2d^2 + d - 2 < 0 \\ |-2| > |-d| \end{cases}$$

$$\implies d \in [0; \frac{\sqrt{17}-1}{4})$$

Conclusion: equilibrium is stable ($\forall d \in [0; \frac{\sqrt{17}-1}{4})$). In other words, in a differentiated products scenario, the degree of differentiation must be high enough to assure a stable equilibrium (situation shown in Figure 1).

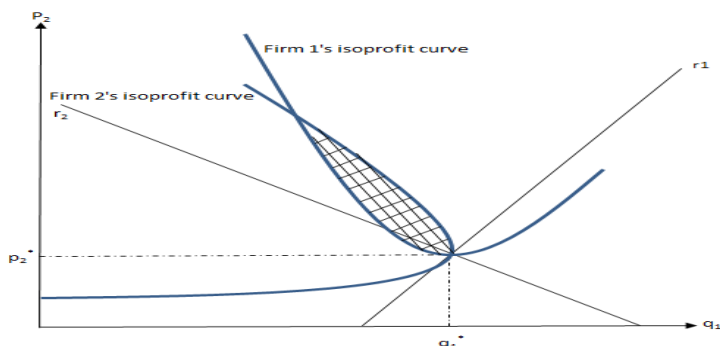


Figure 1: Isoprofit and best – reply functions in the Cournot – Bertrand duopoly
Source: own processing

We will further analyze the perfectly substitutes products scenario ($d=1$). Therefore $p_1^* = c, p_2^* = c$, meaning that the selling price will be identical for both products, matching also marginal cost. We obtain $q_1^* = a - c, q_2^* = 0$, so firm 1 produces the perfectly competitive level of output, whilst firm 2 produces zero output (leave the market). However, we can highlight the fact that the perfectly competitive market output is identical in Cournot-Bertrand and Bertrand models ($q^* = a - c$). Thus, the profit becomes $\pi_1^* = 0, \pi_2^* = 0$, so notwithstanding the output level of both players, they win nothing in current scenario.

Proposition: $p_1^* = p_2^* = c$ and $q_1^* = a - c, q_2^* = 0$ defines the only Nash equilibrium.

Proof: we can consider the general demand system $p_1 = p_1(q_1, p_2), q_2 = q_2(q_1, p_2)$.

Demand functions have to be differentiable, each having negative slopes ($\frac{\Delta p_1}{\Delta q_1} <$

$0, \frac{\Delta p_2}{\Delta q_2} < 0$), products being considered substitutes ($\frac{\Delta p_1}{\Delta p_2} > 0, \frac{\Delta q_2}{\Delta q_1} < 0$). If Q_{pc} = perfectly competitive output level, we further analyze the following scenarios:

- $q_1 > Q_{pc}$. Considering the negatively sloped demand function, this level of output leads to negative profits for first player ($p(q_1 > Q_{pc}) < c$). In this case, a better alternative would be leaving the market and earn zero profit.
- $q_1 < Q_{pc}$. At zero output level produced by second player, negative slope demand function leads to $p(q_1 < Q_{pc}) > c$. Second player best response in this case, would be $p_2 = p(q_1 < Q_{pc}) - \epsilon > c (\epsilon > 0)$, this scenario offering the possibility of earning positive profit ($q_2 > 0$) for both firms. On the other side, $p_2 > c$ offer firm's 1 the opportunity of increasing its production and win extra profit, by supplying the entire demand at p_2 . No residual demand will leave for firm 2, a strong enough incentive to further decrease its price; lowering p_2 and raising q_1 actions will continue until $q_1 = Q_{pc}$ and $p_2 = c$;
- $p_2 < c$. Firm 2 earns negative profit, and will decide to leave the market and obtain zero profit;
- $p_2 > c$. As we have already mentioned, firm 1's best reply to $p_2 > c$ is to produce all the requested output at p_2 , such that $q_1 < Q_{pc}$. In return, will become profitable for firm 2 to charge a lower price. The process of price reducing and output increasing will continue until $q_1 = Q_{pc}$ and $p_2 = c$.
- $q_1 = Q_{pc}$ and $p_2 = c$. Was already demonstrated that first firm cannot increase its profit in $q_1 \neq Q_{pc}$ case, and second one if $p_2 \neq c$ neither. Any action path players would choose, would not lead to a higher profit level then the one expected from its current strategy, therefore they are not motivated to modify the quantity/price triggering the unique Nash equilibrium point.

All previous analysis highlight the dramatic effect that a potential competitor can induce in a market. The threat of a price competitor offering a homogeneous product, ensures that a monopolist will behave as a perfectly competitive firm. Briefly, the potential competitor totally eliminates market power.

We further analyze, via graphical representation, the price/quantity/profit sensitivity to the changes in the level of product differentiation (d parameter values) in a Nash equilibrium scenario. Customizing parameters a and c ($a=90$ EUR, $c=50$ EUR) we

gradually increase product homogeneity degree by ratio of 0.05 (from independent products scenario ($d = 0$) to homogeneous products case ($d = 1$))

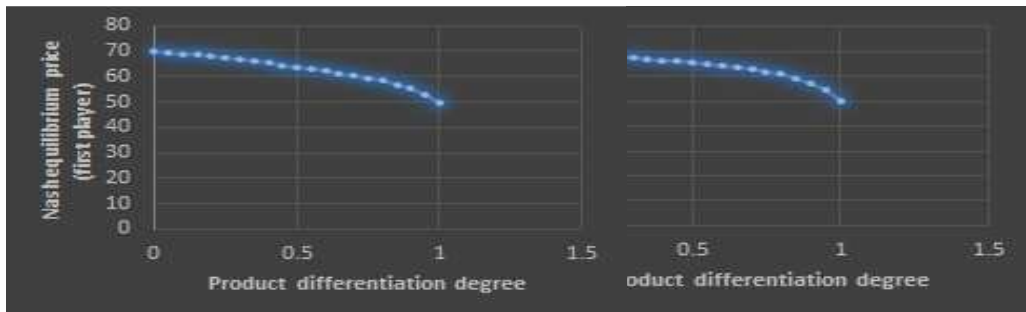


Figure 2: Nash equilibrium price evolution (player i)
Source: own processing

Figure 3: Nash equilibrium price evolution (player j)
Source: own processing

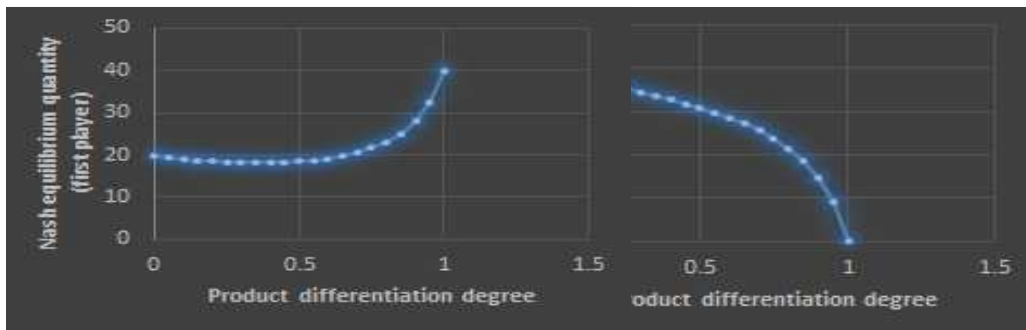


Figure 4: Nash equilibrium quantity evolution (player i)
Source: own processing

Figure 5: Nash equilibrium quantity evolution (player j)
Source: own processing

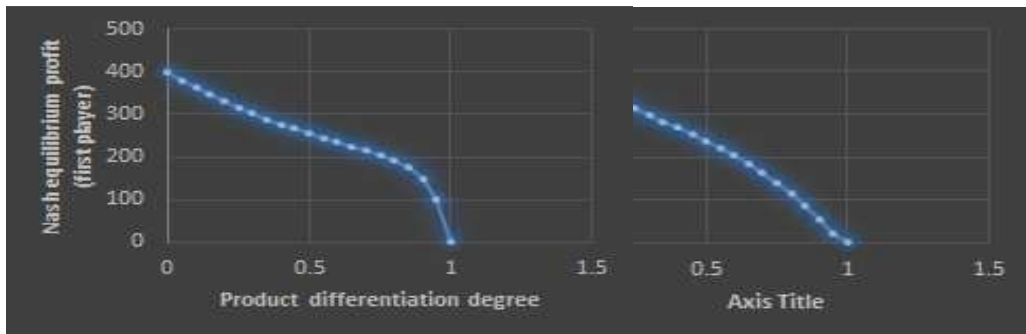


Figure 6: Nash equilibrium profit evolution (player i)
Source: own processing

Figure 7: Nash equilibrium profit evolution (player j)
Source: own processing

3. Conclusions:

In independent products scenario ($d = 0$), a and c coefficients are matching, following different trendlines as the level of products differentiation decreases, although in both

cases their sum remains unitary, as $\frac{2-d-2d^2+d^3}{4-3d^2} + \frac{2+d-d^2-d^3}{4-3d^2} = \frac{2-d-d^2}{4-3d^2} + \frac{2+d-2d^2}{4-3d^2} = 1$. As $a > c$, we assist at the gradual price decrease, from 70 EUR average value of a and c , down to marginal cost level of 50 EUR;

As for the quantities triggering the equilibrium scenario, two different behaviours can be observed in $(0;1)$ interval. First player output level will decrease slowly from its initial value of 20 EUR (tangible in independent good situation), down to 18,16 EUR, as long as the product differentiation degree is not higher than $\frac{6-2\sqrt{6}}{3} \approx 0,37$; once d value enters in $[\frac{6-2\sqrt{6}}{3}; 1]$ area, the trend will become ascending, triggering the perfectly competitive output level of 40 EUR in the absence of product differentiation. The explanation is also mathematical, referring to the fact that for $q^{*'} = \frac{-(a-c)(3d^2-12d+4)}{(4-3d^2)^2}$ the unique critical point (also minimum point) being previously mentioned. The second player will gradually decrease his output level down to zero value, once the product homogeneity degree starts to increase, the downward trend maintaining in all $[0;1]$ area.

Profits for equilibrium scenario follow a downward trend, from 0.25 $(a-c)^2$ down to zero value in homogeneous products scenario. Math principles, offer one more time the key of this behaviour's understanding, as $\pi_1^{*'} = \frac{-2(a-c)^2(2-d)(4-3d^2)(6d^3-5d^2-4d+4)}{(4-3d^2)^2}$, $\pi_2^{*'} = \frac{-2(a-c)^2(d+2)(1-d)(4-3d^2)(3d^2-4d+4)}{(4-3d^2)^2}$, strictly negative expression reflecting

decreasing functions. Moreover the graphical analyse highlights the decreasing trend of profits, from 400 EUR down to the breakeven point (zero profit).

References

- Arya, A., Mittendorf, B., Sappington, D.E.M. (2008) *Outsourcing, vertical integration, and price vs. quantity competition*. Int. J. Ind. Organ. 26, 1–16.
- Beath, J., Katsoulacos, Y. (1991) *The Economic Theory of Product Differentiation*. Cambridge University Press, Cambridge
- Bertrand, J., *Review of Théorie Mathématique de la Richesse Sociale and Recherches sur les Principes Mathématique de la Théorie des Richesses*. Journal des Savants (1883), pp. 499–508.
- Cournot, A. (1838) *Researches into the Mathematical Principles of the Theory of Wealth*, Paris: L. Hachette.
- Dixit, A. (1979) "A model of duopoly suggesting a theory of entry barriers". Bell Journal of Economics, Vol. 10, pp. 20–32.
- Dixit, A. (1986) "Comparative statics for oligopoly" International Economic Review, Vol. 27, pp. 107–122.

- Hackner, J. (2000) "A note on price and quantity competition in differentiated Oligopolies", *Journal of Economic Theory*, Vol 93, pp. 233–239.
- Imperato, A. et al., *Reglarea Cibernetică în Sistemul Pietei Bunurilor și Serviciilor*. Editura ASE, 2004
- Kreps, D. and Scheinkman, J. (1983). 'Quantity precommitment and Bertrand competition yield Cournot outcomes', *Bell Journal of Economics*, 14 (2), pp. 326–337.
- Sato, T. (1996) On Cournot-Bertrand mixed duopolies. *Jpn. Econ. Rev.* 47 (4), 412–420.
- Singh, N., Vives, X. (1984) "Price and Quantity Competition in a Differentiated Duopoly," *Rand Journal of Economics*, Vol. 15, No. 4, pp. 546-554.
- Tremblay, V.J., Tremblay, C.H., Isariyawongse, K. (2009) Endogenous Timing and Strategic Choice: The Cournot-Bertrand Model. Working Paper. Oregon State University.
- Tremblay, C.H., Tremblay, V.J.(2011) "The Cournot-Bertrand Model and the Degree of Product Differentiation," *Economics Letters*, Vol. 111, No. 3, pp. 233-235
- Tremblay, C.H., Tremblay, M.J., Tremblay, V.J. (2011) "A general Cournot–Bertrand model with homogenous goods", *Theoretical Economics Letters* 1, 38–40.
- Zanchettin, P. (2006) "Differentiated duopoly with asymmetric costs", *Journal of Economic Management Strategy*, Vol 15, pp. 999–1015.

THE EFFECTIVENESS OF SECONDARY SCHOOLS IN THE CONTEXT OF THE LABOR MARKET

Daniela MALIŠOVÁ, Jana ŠTRANGFELDOVÁ

Department of Public Economics and Regional Development, Faculty of Economics, Matej Bel University, Banská Bystrica, Slovak Republic

daniela.malisova@umb.sk

jana.strangfeldova@umb.sk

Abstract: *The current state of the labor market is influenced not only by the demographic decline of the population, but also by the educational society. It's the education of society that is related to the education achieved, which should be adapted to the needs of the labor market. To examine the impact of education on the labor market, it is important to assess the effectiveness of the institutions that prepare pupils for a career. In this article we focus on secondary schools, whose education reaches 60% of the population of Slovakia. The subject of the research is the effectiveness of selected secondary schools, evaluated by the method of standardized variable and integral indicator. The object of the research is 10 Business Academies, with pupils aged 15-19 years old, established in the Banská Bystrica and Žilina self-governing regions. In the article we use data collected for the school years 2013/2014 - 2017/2018. The aim is to evaluate the effectiveness of secondary schools as institutions preparing graduates for the labor market.*

Keywords: Education, Secondary Schools, Effectiveness, Labor Market

JEL: I21

1. Introduction

From a microeconomic point, the labor market is affected by several factors (Holman 2001). The supply side of the labor market is influenced by the education and qualification of the population. On the demand side the need for a skilled workforce (EuroActive, 2007). Research on the educational structure of the Slovak population has shown that the share of secondary educated people is 60% (Lauko et al., 2012).

Effectiveness can be identified as a purposeful work effort, etc. a measure of achieving the set goals (Gilbert, Coté, 2009). This indicator determines whether the organization adequately prepares pupils for practice. Suitable indicators were designed according to Hronec (2017) and consulted with professional public. The results of the semi-structured interviews are presented in the analytical part of the article.

We measure effectiveness of 10 Business Academies with pupils aged 15-19 years and they are established in the Banská Bystrica and Žilina self-governing regions. The curriculum of the Business Academy is carried out during a 4-year study and is focused on vocational training for economic, marketing, work in tourism, etc. (Šlosarová et al., 2002).

2. Materials and Methods

In terms of methodological construction the research is divided into 4 stages. In the first stage, we carry out primary research with members of the professional public

consisting of directors, representatives and economic workers of secondary schools and former graduates by the method of semi-structured interview for qualitative research (Miovsky, 2006, Hendl, 2016). Chart 1 shows the results of the semi-structured interviews. The result is the identification of suitable indicators to measure the effectiveness of schools.

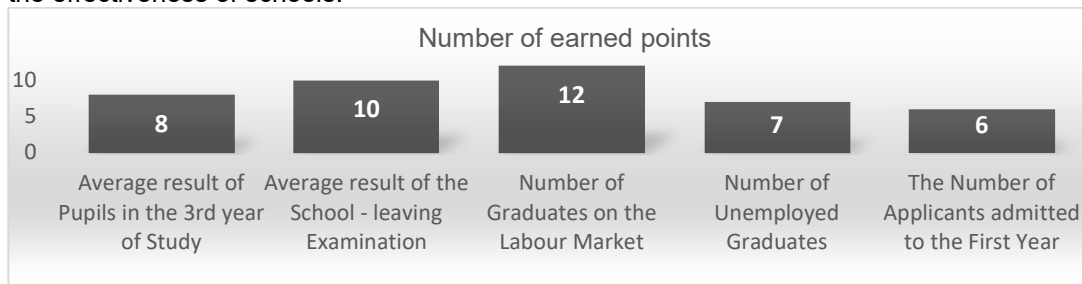


Chart 1 Appropriate indicators for measuring effectiveness according to professional public (in points)

Source: Own processing based on the results of semi-structured interviews (2019)

The second stage is collection of panel data for the school years 2013/2014 - 2017/2018 from *Internal Reports* and *Annual Evaluation of Secondary Schools*. The third stage includes analytical data processing. We use part of multicriterial analysis, namely standardized variable (Plazibat, Babic, 1998). In the first step, we calculate the arithmetic mean, standard deviations for each performance indicator. In the second step, we subtract the arithmetic mean from the original indicator values and divide the value by the standard deviation. To fill in the missing data, we replace the missing value of the indicator with the worst measured value in the given year. The overall effectiveness is expressed by an integral indicator according to the formula (Sabol, Tkáč, 2012):

$$d_i = \frac{\sum_{j=1}^m u_{ij} * p_j}{\sum_{j=1}^m p_j}$$

Where:

u_{ij} - the Value of the j-th Indicator in the i-th Subject,

p_j - Weight of j-th Indicator

In interpreting the results, we consider the best subject to be the most effective indicator of effectiveness. In the fourth stage we propose measures for better employment of secondary school graduates in the labor market. The findings are presented in the research results.

3. Research Results

The highest average effectiveness in the monitored school years was achieved by the Business Academy in Dolný Kubín, which effectiveness reaches 88.6% level, presented in Table 1. The result reflects the long-term excellent results of students from the school-leaving examination as well as the average grade in the third year of study. The above-mentioned academy also shows a high proportion of graduates on the labor market after graduation. Given the overall relative change, we can assume an increase in effectiveness to 94.6% (statistical deviation is 25.5%) in next school year.

In second place was the Business Academy in Lučenec. However, the average outcome of the Academy in Lučenec is 75% lower than the first. The reason for the placement is the slippage of the average results of the school-leaving examination in the school year 2014/2015. In the last reference year, 46 graduates actually worked in the labor market.

Table 1 Indicator of Effectiveness of Business Academies in monitored periods

Žilina self-governing region						
Name of School/ School Year	2013/2014	2014/2015	2015/2016	2016/2017	2017/2018	Average
BA in Liptovský Mikuláš	-0.636	-0.537	-0.355	0.053	0.269	-0.241
BA in Dolný Kubín	0.587	1.231	0.724	1.028	0.860	0.886
BA in Žilina	-0.549	0.148	0.395	-0.495	-1.074	-0.315
BA in Ružomberok	-0.179	0.184	0.066	0.545	0.396	0.202
BA in Čadca	0.021	-1.082	-0.278	-1.121	0.165	-0.459
BA in Martin	0.756	0.055	-0.552	-0.350	-0.616	-0.141
Banská Bystrica self-governing region						
Name of School/ School Year	2013/2014	2014/2015	2015/2016	2016/2017	2017/2018	Average
BA in Banská Bystrica	-0.707	0.908	-0.707	0.137	-0.015	-0.077
BA in Brezno	-0.707	-0.988	-0.707	0.522	0.157	-0.345
BA in Rimavská Sobota	-0.707	-0.655	-0.236	-0.921	-0.289	-0.562
BA in Lučenec	0.707	-0.254	0.236	0.263	0.147	0.220

Source: Own processing based on Internal Reports of selected secondary schools (2019)

The lowest result was recorded in the Banská Bystrica self-governing region in the Business Academy in Rimavská Sobota. The reason for this result is the high absence of pupils, the lack of interest of parents, which affects the evaluation and results at school. The location of the Academy is also influenced by the socio-economic aspect - a high proportion of pupils from socially disadvantaged groups and a lack of jobs for graduates in the professional field of labor market.

Chart 2 shows the average effectiveness of selected secondary schools in the both self-governing region. We can see that during the first periods the effectiveness indicator increased in Žilina self-governing region. However, at the present it reaches negative values, academies are not sufficiently effective, pupils do not achieve sufficient results, which is also reflected in their application in the labor market. The reason for this situation is, according to *Internal Reports*, low internal motivation of pupils to learn, poor knowledge preparation at the beginning of their studies, but also low level of foreign-language competences. Effectiveness in this region decreased by 15.62% annually, we expect in the next school year -0.124 (statistical deviation is 0.042) average effectiveness.

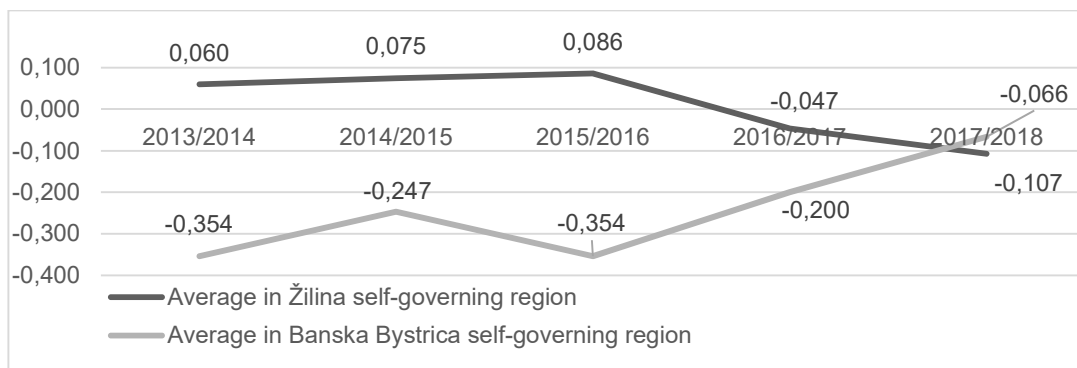


Chart 2 Average result of the Effectiveness of Business Academies in Banská Bystrica self-governing region and Žilina self-governing region in monitored periods

Source: Own processing (2019)

Average results in the Banská Bystrica self-governing region shows, that effectiveness of academies is slightly increasing, but is still below positive levels. It follows that the readiness of pupils to enter the labor market on the basis of monitored indicators is insufficient. Forecasting effectiveness for the next school year through annual change it will be 2.24% higher, so it means, it reaches -0.043 value of effectiveness (statistical deviation is 0.016).

4. Conclusion

The article focuses on measuring the effectiveness of secondary schools preparing their graduates to enter the labor market. We find that the effectiveness of monitored Business Academies in two self-governing regions has a decreasing tendency over time. Thus, insufficient preparation of graduates for the labor market. The results of the Business Academy in Dolný Kubín and the Business Academy in Lučenec in the monitored periods are positively evaluated.

On the labor market demand side, there is low number of jobs in the professional field, which is related to decreasing number of graduates. On the labor supply side, we perceive negatively low foreign-language competence of graduates, low motivation to educate, but also various socio-economic aspects in the regions. As a solution we advise Business Academies to cooperate with local companies to create jobs for graduates, to motivate them to study at university or to offer them the possibility to try out graduate practice.

5. Acknowledgements

This paper is part of the project VEGA 1/0334/19 Evaluating the performance of regional education by the value-for-money method, using the example of grammar schools.

References

EuroActive. (2007) "A time shortage in the EU labor market." [Online], Available: <https://euractiv.sk/section/ekonomika-a-euro/news/casovana-bomba-nedostatku-pracovnej-sily-tika/>

- Gilbert, W., Coté, J. (2009) "An Integrative Definition of Coaching Effectiveness and Expertise". In *International Journal of Sports Science and Coaching*. Vol. 4//2009, No. 3, 307-323 pp.
- Hendl, J. (2016) *Qualitative research*. 1st edition. Prague: Portal. 440 p. ISBN 978-80-262-0982-9.
- Holman, R. (2001) *Economy*. 2nd edition. Prague: C. H. Beck, 714 s. ISBN 80-7179-387-6.
- Lauko, V., Gurňák, D., Križan, F., Tolmáči, L. (2012) "Recent developmental trends of educational structure of Slovak population in temporal and spatial context". In *Geographia Cassovienses VI*. Vol. 6, No. 2, 91 – 102 pp.
- Miovský, M. (2006) *Qualitative approach and methods in psychological research*. 1st edition. Prague: Grada. 332 p. ISBN 80-24713-62-4.
- Plazibat, N., Babic, Z. (1998) "Ranking of enterprises based on multicriterial analysis". In *International Journal of Production Economics*. Vol. 56-57, 29-35 pp.
- Sabol, J., Tkáč, M. (2012) "Multicriterial performance evaluation and Balanced Scorecard". In *Business Performance - Scientific Journal of Research Institute of Economics and Management*. Vol. II. No. 2/2012. 95-106 pp.
- Šlosarová, D., Kaliská, M., Podhradská, E., Šutovská, J., Matejčíková, J. (2002) *Business Academy:100 years*. 1st-edition. Banská Bystrica: ERLAND BB. 73 p. ISBN 80-967846-6-8.

RESEARCH TRENDS IN MORBIDITY AND MORTALITY IN THE POPULATION USING PANEL DATA

PhD Katarzyna Strzała-Osuch, MSc. Daniel R. Osuch

Powislanski University in Kwidzyn, Poland

Powislanski University in Kwidzyn, Poland

k.strzala@psw.kwidzyn.edu.pl

biuroprojektow@psw.kwidzyn.edu.pl

Abstract: *The development of civilization contributes to deeper and deeper economic, social and cultural transformations, which translates into an increase in the number of interdisciplinary research concerning this process, affecting the formation of classical measures of health condition. Just like the morbidity (mortality) itself, its research continues to evolve. The paper presents a short review of quantitative statistical methods used by researchers to investigate the problem of morbidity (mortality) in terms of searching for determining factors independent of the geolocation of a given population. The literature on the subject presents analyses of relations between the level of socio-economic development of the country, the amount and structure of health care expenditures and the effects of the health care system functioning, expressed with the use of various epidemiological indicators, which is presented in this paper. Population health, as an economic category, is complex, which makes it difficult to measure.*

Keywords: Financing of the health care system, Spatial analysis of deaths, Panel tests

JEL classification: I14; I15; O57.

The primary purpose of this article is to present the variety of factors that cause diseases and affect mortality. In the literature on the subject, where a separate group consists of socioeconomic studies of the determinants of the health condition of the population, the studies should be quoted: R. Wilkinson (1986), devoted to the relationship between population income and mortality, as well as the monograph by M. Marmot, R. and Wilkinson (2003) Social Determinants of Health. The Solid Facts, in which the authors deal with the impact of the socio-economic environment on chronic non-communicable diseases, as well as the impact of poverty, social inequalities and unemployment on the health of the population, including the health of the inhabitants of Central and Eastern Europe. In the group of empirical studies the following studies should be noted: J. M. Kostrzewski (1979), devoted to the assessment of the health situation of Poland in the context of the global situation, J. Klanecki on the spatial diversification of infant mortality in Poland in the system of communes in 1982-1984, H. Powęska (1990) describing the spatial accessibility of medical services in the suburban zone of Warsaw, B. Klanecki on the spatial diversification of infant mortality in Poland in the years 1982-1984, H. Powęska (1990) describing the spatial accessibility of medical services in the suburban zone of Warsaw. Pułaska-Turina (1990) on spatial diversification of mortality in Poland, G. Kaczorowski (1992) on the causes of male mortality in Poland in the years 1960-1989, and K. Warakomska (1993) on the analysis of spatial diversification of rural population deaths in Poland in

relation to its age structure. Despite the interdisciplinarity of morbidity and mortality among researchers in order to find factors determining these medical categories, the key element in the early 21st century is technological growth, which translates into increasingly sophisticated computational methods (more complex econometric models and more extensive data sets). This does not mean that current research in the literature on the subject gives more unambiguous answers than 40 years ago. The use of panel research in spatial terms has its origins in medical geography in which, as shown by Pantylej W. (2008) from among many currents, spatial modelling is used in the mathematical-statistical current concentrating on searching for integral indicators (measures) of the health condition of the population, health determinants, as well as the economic value of health and life of the population. A special place within this direction of research is occupied by the problem of determining the significance of the influence of particular conditions, statistically measurable, on the health condition of the population of specific areas. As well as in the socio-economic current analysing the influence of socio-economic factors (including wealth, unemployment, working conditions and other factors) on the state of health of the population. From this point of view, it seems necessary for the countries undergoing intensive social and economic transformations to examine the influence of the directions, scale and effects of these transformations, as well as reforms in the field of health care on the health condition of the population. It should be noted, however, that the above trends do not exhaust all those in which models for large communities and over time are used.

In order to assess health status at the macroeconomic level, the construction of a health measure using the Multiple Indicator Multiple Causes (MIMIC) model may be a useful tool. The MIMIC model is a class of structural equation patterns that enable the estimation of models with hidden variables. A review of existing studies shows that the use of the MIMIC model for regional health assessment has strong theoretical rationale. It is based on the notion of the MIMIC-HSI health model of the 1970s. It should not be confused with the MIMIC (Multiple Indicator Multiple Causes) model in the class of equation patterns. MIMIC-HSI models, referred to in the literature as Health Status Index Models, are multi-equivalent econometric models with a hidden variable (HSI). They describe health, which is an unobservable variable, indirectly through its determinants and health indicators.

An interesting approach is presented in the article „Measuring population ageing: an analysis of the Global Burden of Disease Study 2017” From the perspective of improving the measurement of population ageing, this novel measure supports the comparison of the progression of population ageing across countries and over time without the need for additional and extensive data collection. It also facilitates the shift from thinking not just about chronological age but the health status and disease severity of ageing populations.

Another example of an approach to the study of morbidity is the research „Epidemiological transition in morbidity: 10-year data from emergency consultations in Dakar, Senegal” where the authors using disease morbidity data over a decade in an emergency medicine setting, have for the first time examined the epidemiological transition in a large Sub-Saharan African city. These data suggest a need for a focused reorientation of healthcare policy to combat the rising burden of non-communicable disease in Sub-Saharan Africa

In order to assess the state of health at the macroeconomic level, Jaworska R. (2013) used the MIMIC (Multiple Indicator Multiple Causes) model in its study, where the methodology was based on the use of structural equation (SEM) models, which made it possible to estimate types with hidden variables. The regions of the EU-25 were the

spatial scope of the study. After removing outliers, i.e. regions where the values of variables differed significantly from those of the others, 233 EU regions (NUTS 2) qualified for the survey. On the basis of the survey, hypotheses on the influence of economic and social factors on the health of the population were confirmed. Among the variables determining the state of public health measured by the indicators: infant mortality and life expectancy, GDP per capita describing the economic situation in the region, the number of physicians per 100,000 inhabitants describing the standard of health care and population density turned out to be significant. Moreover, the results confirmed that the health status of the examined regions of the EU is spatially diversified.

Research of morbidity include studies on spatial models for the use of healthcare infrastructure as a factor in preventing severe illness. The study "Homogeneous and multifunctional spatial models for the use of health centres for children with fever in the Kenyan coastal region" points out that precise quantification of the use of health services is important for the assessment of disease burden and allocation of medical resources. Current approaches to mapping the use of health infrastructure depend on spacious availability as a predictor. However, other social, demographic and economic factors may influence the use of medical services. Excluding these elements may lead to an underestimation of the use of before mentioned devices. At this point we compare the accuracy of a one-dimensional spatial model, developed from travel time estimates only, to a multi-dimensional model that also includes relevant social, demographic and economic factors. Research has shown that the best-fitting multidimensional model included travel time, household wealth index and the number of children in households as predictive indicators. These factors reduced the BIC of the time model from 4008 to 2959, which was confirmed by the LRT test. Although there was a high correlation between the two modelled probability areas (Adj R² = 88%), the multidimensional model had a better AUC compared to the one-way model; 0.83 compared to 0.73 and PCP 0.61 compared to 0.45.

An interesting approach to the issues convergent with morbidity can be found in the study by R.D. Burns, where the links between the results of fitness and health tests were examined among students using the method of hierarchical cluster analysis. The aim of this study was to attempt to group the results of health fitness tests in students by applying hierarchical cluster analysis and cluster grouping based on measures of body composition, cardiopulmonary endurance and muscular fitness. The results gave six clusters, each of which is defined by a unique phenotype of efficiency (a set of observable functional features), which differed in frequency of occurrence. Since a cluster solution has been validated on the basis of % BF assessed by DXA, measured VO₂ peak and results in 1-RM extrusion, it may be useful under practical and research conditions.

In the paper "Spatial variability of excess mortality during prolonged dust events in a highdensity city: a time-stratified spatial regression approach" the authors investigated the influence of air pollution as an indicator of increased mortality. The study used the spatial regression approach to estimate mortality at county level during two extreme pollution episodes in Hong Kong. Spacious and non-stationary designs were compared to assess the ability of each regression to estimate mortality. Long-term pollution was also compared with episodes of short-term, also the intensive pollution was investigated to determine the impact of social factors on city-wide mortality. The authors have shown that their type illustrates the ability to predict the spatial variability of death threats during extreme weather events that cannot be estimated from traditional time series analysis or ecological studies. The spatial model

developed can be used to monitor public health, sustainable development or disaster preparedness, if appropriate data is available.

Another example of an approach to the study of morbidity is the treatise "Spatial identification of potential health hazards: a systematic areal search approach" in which the authors took into account the spatial identification of potential threats to human health. The authors assumed that in large metropolitan areas there are often numerous morbidity outbreaks. However, the identification of specific health threats associated with the observed diseases is not always easy. This study suggests an empirical approach to identifying the specific health threats most likely to be associated with the observed outbreaks. The percentage of reduction of the disease effect of a particular health threat is observed. For this purpose, gradients of distance distribution in alternative locations were estimated and these locations were then indicated based on the strength of association between the observed morbidity and the weighted proximacy of the wind direction to these locations. Both theoretical examples and a case study of Greater Haifa Metropolitan Area (GHMA) in Israel, which is characterised by many health risks, were used to confirm this approach. The proposed approach did not require extensive input and can be used as an initial risk assessment tool for a wide range of environmental variables, helping to identify potential environmental risk factors for population morbidity. This path can greatly simplify the selection of factors and their weights in spatial modelling that would address morbidity.

In the latest literature on morbidity (mortality) research, the authors pay close attention to elements that would have gone unnoticed a few years ago. It should be pointed out that the latest trend in morbidity and mortality research could be based on information collected in real time by applications on smartphones or smart watches. This situation, given the huge availability or habit of using mobile devices, does not necessarily have to be too distant. In conclusion it is safe to state a fact that it would be "almost" impossible to cover 100% of the population with a survey, but using such a way of collecting data in a certain reference group can bring many benefits, that in longer run could shed lights on yet underdeveloped studies.

References

- Chang A. Y., Skirbekk V. F., Tyrovolas S., Kassebaum N. J., Dieleman J. L. (2019) *Measuring population ageing: an analysis of the Global Burden of Disease Study 2017*, Lancet Public Health
- Jaworska R. (2013), *Analiza regionalnych nierówności zdrowotnych w Unii Europejskiej z wykorzystaniem Indeksu Stanu Zdrowia*, Zarządzanie i Finanse, Rocznik, tom 11, nr 3/2
- Kujawska J, Reich M (2014) *Analiza przestrzenna zgonów w Polsce w przekroju podregionów*, Acta Universitatis Lodzianis. Folia Oeconomica, .
- Matyaszczyk P., Hoffmann K., Bryl W. (2011), *Epidemiologia wybranych czynników ryzyka chorób układu krążenia*, Przegląd Kardiologiczny; t. 4, nr 6.
- Ouma P. O., Agutu N. O., Snow R. W., Noor A. M. (2017), *Univariate and multivariate spatial models of health facility utilisation for childhood fevers in an area on the coast of Kenya*, International Journal of Health Geographics.
- Burns R. D., Fu Y., Brusseau T. A., Constantino N., (2017), *A Cluster Analysis and Validation of Health-Related Fitness Tests in College Students.* Journal of Physical Activity Research, vol. 2, no. 2.

- Ryć, K. i Z. Skrzypczak (2010). *Finansowanie systemu ochrony zdrowia w krajach europejskich*, w: K. Ryć i Z. Skrzypczak (red.) *Ochrona zdrowia i gospodarka. Sposoby finansowania*, Warszawa: Wydawnictwo WZ UW.
- Ryć, K. i Z. Skrzypczak (2011). *Wskaźniki epidemiologiczne i ich ekonomiczne determinanty w krajach Unii Europejskiej*, w: K. Ryć i Z. Skrzypczak (red.) *Dylematy ochrony zdrowia na świecie. Analiza porównawcza*, Warszawa: Wolters Kluwer.
- Skrzypczak, Z. (2010). *Nakłady na ochronę zdrowia a podstawowe wskaźniki epidemiologiczne – analiza porównawcza krajów europejskich*, w: Goliński J., Kobyliński A. and Sobczak A. (red.) *Technologie informatyczne w administracji publicznej i służbie zdrowia*, Warszawa: Wydawnictwo SGH, Seria: „Monografie i Opracowania”.
- Svechkina A., Zusman M., Rybnikova N., Portnov B. A. (2017), *Spatial identification of potential health hazards: a systematic areal search approach*, International Journal of Health Geographics.
- Wilkinson R., Marmot M., (2003): *Social Determinants of Health. The Solid Facts* (Secondo Edition). WHO, Copenhagen, Denmark.
- Wong M. S., Hung C. H., Yang L., Wenzhong S., Yang J, Ta-Chien C. (2017), *Spatial variability of excess mortality during prolonged dust events in a high-density city: a time-stratified spatial regression approach*, International Journal of Health Geographics.
- Gaye B., Diop M., Narayanan K. Offredo L., Reese P., Antignac M., Diop V., Mbacké A., Chatenet L., Marijon E., Singh-Manoux A., Diop I., Jouven X., (2019), *Epidemiological transition in morbidity: 10-year data from emergency consultations in Dakar, Senegal*, BMJ Global Health

ECONOMIC ANALYSIS OF SOVEREIGN ASSETS: APPLICATION BY COURTS IN DETERMINING SOVEREIGN IMMUNITIES

Ferdous Rahman

Doctoral Student, Department of Private International Law and Law of Economic Relations, Faculty of Law and Political Science, University of Szeged, Szeged, Hungary

ferdous@juniv.edu

Abstract: *With the advancement of economic development state's functions are no longer limited to its public acts (jus imperii). It is treated as private in its commercial transactions (jus gestonis). The sovereign assets having or used for commercial purposes are subjected to execution by private judgment creditors. The literature on economic analysis of property rights defined ownership based on exclusivity and enforceability from the perspective of the holders' rights. As the strict divorce of economic and legal aspects of the property is neither possible nor desirable, this paper scrutinizes the sovereign assets in terms of its enforceability considering their attribution and the holding instead of ownership for execution. It questions how the court applies the economic analysis of ownership and the attribution to decide if the assets are enforceable for private claims. Unlike private ownership, the enforceability of sovereign assets and its cost efficiency are complex and unique. The approach toward sovereign assets varies under the question of the third-party state where the assets are located and attempted for execution. Given the current inconsistent reasoning even in the same class of properties, this literature opens the opportunity to work deeper on-court practices in law and economics.*

Keywords: Sovereign Assets; Property Rights; Economic Analysis; State Ownership; Enforcement

JEL Classification: K11; K22; K41

1. Introduction

With the economic advancement of the European Union, its member states are getting involved with private functions to cope with the pace of economic development and the individuals are also getting involved in commercial transactions with other states. These extended functions are complex and closely overlapped with the activities of any private persons. States do not enjoy absolute sovereign immunity from jurisdiction and its assets from execution for its private act. The private party can apply to the court for enforcement of the judgment against sovereign assets which requires the definition of the sovereign ownership and its distinction from the public assets for the question of enforceability. Thus, the domestic courts of the EU states deal with the execution cases against the sovereign assets, brought by private creditors. Such as in the case of *Sedelmayer v. Russia*, the US company owned by the German citizen brought a case before the court in Cologne, Germany to confiscate the payment of Lufthansa to be made for overflights of Russian airspace. The experience of Greece debt crisis illustrates the threat of vulture fund litigations to the economic development of the EU (Munevar, 2017). In fear of prolonged litigation fight, Greece paid off the vultures

(Mohamadih, 2015). Report of the World Bank says the vulture fund litigations severely affect the debt relief capacity of the debtor state and IMF estimates the claims of vultures are 12-13% of a state's GDP.

The cost-efficiency of the rights closely depends on the institutions and their force applied to define and enforce the rights of the owner. Thus, the application of economic analysis of ownership and property rights by court hereby invariably matters for efficient enforcement. The majority of the forums decide the questions of immunity considering two issues: ownership of assets and its attribution. The sovereign ownership makes the asset entitled to immunity whereas the commercial use of the assets acts as an exception to the immunity rules.

This paper is divided into three major parts starting with the economic analysis of property rights and followed by the tension between the owner of the property and the holder thereof. The third part concentrates on the questions of attribution of sovereign assets against its liability owed to private judgment creditors.

2. The literature on Property Rights

There are two approaches to define the ownership of assets. The older approach defines ownership from the question of who owns the assets whereas the new approach to property rights questions why ownership matters instead of who owns an asset because the literature claims ownership is enforceable perfectly and costlessly (Brosseau and Fares (1998) and Foss & Foss (2000)). This chapter scrutinizes the sovereign assets in the model of economic analysis.

Coase (1960) examined the economic implication of allocation of liability rights as a part of property rights along with the other external factors implying the value of the property. He defined a property, not as physical property, but a bundle of rights and private ownership means the entitlement to exercise these rights including the income rights, right to enjoyment, right to assignment subject to the legal restrictions and ability of the owner to exclude others. The challenge in this theorem is the assumption of zero transaction costs. Coase relaxes the assumption on transaction costs to see the correlation of allocation of use rights, although the extent of such relaxation is left in a vacuum (Foss & Foss, 2001). Among the so-called 'bundle rights', Demsetz (1988) emphasized exclusivity and alienability as two core rights in the bundle of property rights. Another defined ownership of property rights as exclusively enforceable through legal and non-legal institutions (Umbeck, 1981). On the other hand, the new approach to property rights interprets the specific right to control obtained through contractual arrangement whereas the residual right to control is achieved by legal ownership (Hart, 1996). This notion of ownership significantly depends on the institution for enforcement of both the contractually and legally derived rights. A private entity qualifies as owner with the extent of exclusivity for enforcement whereas the sovereign assets require exclusive use or purpose to qualify as private assets available for execution. Thus, for both legal and economic definitions of property rights of the sovereign, the holder of the assets and its use are relevant issues before the court.

3. Typology of Owner and Holder

The private ownership is also defined with economic consideration of the so-called 'bundle' property rights. However, for sovereign assets, the assets may be held by the instrumentality but enjoyed by state organ or vice-versa although the control rights are

relevant to both cases to a certain extent. An entity holds the assets in questions exercising sovereign power or on behalf of other sovereign authority (known as state instrumentality). In the question of sovereign assets for the execution of its liability, the first issue comes before the court if the entity holding the assets is sovereign or not. Although the question seems a legal one, the court uses the same 'control' theory to determine whether the assets should be treated as sovereign for immunity. The control over the assets and decision of using it makes the holder owner of the asset. In the case of *Dole v. Patrickson*, even though the assets were in the control of the institution, but the governance of the institution was in control of the state, thus, the assets were held as sovereign. However, there are dissenting opinions of the other forums where governance was not considered as a triggering point for deciding the ownership. For illustrations, in *Bank of China vs. Chan*, the court rejected the argument of taking the asset of Bank of China as the assets of the People's Republic of China given the separate legal entity of the bank. In *In re China Oil and Gas Pipeline Bureau, U.S. Titan, Inc. v. Guangzhou Zhen Hua Shipping Co. Ltd.*, and *BP Chemicals Ltd. v. Jiangsu Sopo Corp.*, the entities were held as separate from the sovereign and entitled to hold their assets distinct from the sovereign entity. As the above illustrations show, a dilemma exists in the application of control theory in determining the owner of the assets. The second question is the use of the assets. Thus, attribution plays a major role in the enforcement of sovereign assets instead of the asset itself.

4. Attribution of the Assets

Attribution is the possible uses and purpose of uses of the assets (Foss & Foss, 2001). Barzel advocated for the attribution of assets instead of the asset itself in the economic analysis of ownership (Barzel 1994). He distinguished the legal and the economic perspective of ownership as the legal concentrates on the rights recognized and enforceable in law and the economic notion refers to the alternative uses of the same assets, controlled by the holder. In the cases of execution against the sovereign assets, the court not only relies on the legal definition of ownership and possessor but also the nature of the use of the assets. In the case of *AF-CAP INC. v. the Republic of Congo*, the fact of direct payment of 51% of taxes and royalties from a particular source to a creditor of Congo for settlement of its debt made the court decide the assets as commercial and thus subjected to execution by other creditors subsequently. Thus, here the attribution of the taxes and royalty despite their public nature triggered the assets as commercial and hence subjected to execution by private judgment creditors for the liability of the owner of the assets. The court reasoned that although the exceptional and single commercial use did not turn the use of the property into a commercial one, the continuity, extension, and value of that one-time commercial transaction was material to determine the use of the property. The debt settlement with NUFU amounted to USD 26,000,000 and continued for eleven years. The Federal court observed, "*Such a continuing, extended and monetarily significant use is neither exceptional nor de minimis.*" The proposed use of these taxes and royalties by Congo for another commercial debt even though did not use in actual, also supported the stand that these taxes and royalties were not contemplated as sovereign assets to be used exclusively for its public acts but assets available for any use as Congo found appropriate, thus, made the nature of the assets commercial.

The court further stated in its reasoning to dismiss the connection in case such connection disrupts the public act of the state i.e. *jus imperii*. The court rejected Congo's argument of the place of payment because the use of assets is in question but not the source of the assets. Concerning the NUFU settlement, with a similar

arrangement of taxes and royalties, Congo permitted the pay 50% of the taxes in cash and directly to the first creditor from the garnishee. Thus, the claim of the location of taxes in Congo was not accepted by the court. Another reason for rejection was that the subsequent assignee did not ask for attachment but garnishment from the garnishee with a similar arrangement of the first settlement.

5. Conclusion

The new approach to property rights concentrates on “why it matters who owns the property”, this question answers the sovereign assets also. The court interpreted the indirect control as a trait of ownership. However, inconsistent judgments make the conjunction of law and economics fragile. The issue of attribution has comparatively settled footing. However, the paper posed the application of economic analysis of property rights by the court in granting sovereign immunities. The decision of sovereign immunities relies on two issues: if the assets are owned by the sovereign and secondly if the assets are used for commercial purposes. Given the above discussion, the first issue is closely dealt with from the legal perspective and the decisions are not uniform. On the other hand, the use of assets is based on the economic analysis approach. Deeper work needs to be done to examine the uniformity regarding the assets as the analysis of ownership and the attribution is more context-specific. The enforceability also varies according to the approach taken by the courts in deciding the sovereign immunity questions.

References:

- AF-CAP INC. v. the Republic of Congo* (383 F.3d 361 (5th Cir. 2004))
Bank of China vs. Chan, 1992, WL 298002 (S.D.N.Y. 1992)
BP Chemicals Ltd. v. Jiangsu Sopo Corp., 285 F.3d 677, 62 U.S.P.Q.2d (BNA) 1514 (8th Cir. 2002)
Dole v. Patrickson 538 US 468 (2003)
Re China Oil and Gas Pipeline Bureau, 94 S.W.3d 50 (Tex. App. Houston 14th Dist. 2002),
Sedelmayer v. Russia, SCC Case No 106/1998, IIC 106 (1998)
U.S. Titan, Inc. v. Guangzhou Zhen Hua Shipping Co. Ltd., 241 F.3d 135, 2001 A.M.C. 2080 (2d Cir. 2001)
Barzel, Y. (1994) the Capture of Wealth by Monopolists and the Protection of Property Rights, *International Review of Law and Economics*, 14, 393-409.
Barzel, Y. (1997) *Economic Analysis of Property Rights*, Cambridge, Cambridge University Press
Brousseau, E. and Fares, F. (1998) *Incomplete Contract and Governance Structures*, available online < <http://brousseau.info/pdf/EBMFISNIE.pdf> > accessed on 8 November 2019.
Daniel M. (2017) *Vulture Funds: Lessons from Greece*, Committee for Abolition of Illegitimate Debt, available online <<http://www.cadtm.org/Vulture-Funds-Lessons-from-Greece>> accessed on 8 November 2019
Demsetz, H. (1988) *Toward a Theory of Property Rights, Ownership, Control and Firm*, Oxford: Basil Blackwell.
Foss, K. and Foss, N. (2000) *Theoretical Isolation of Contract Economics*, *Journal of Economic Methodology*, 7, 313-39

Foss, K. and Foss, N. (2001), Assets, Attributes and Ownership, *International Journal of the Economics of Business*, 8:1, 19-37.

Hart, O. (1996) An Economist's View of Authority, *Rationality and Society*, 8, 371-88.

Mohamadieh, K. (2015) A Long History of Predatory Practices by Vulture Funds against Developing Countries, available online <<https://www.alainet.org/en/active/80853>> accessed 8 November 2019.

Umbeck, J. (1981) Might Makes Rights: A Theory of the Formation and Initial Distribution of Property Rights, *Economic Inquiry*, 38-59.

DEVELOPMENT OF TRANSPORT AND CRITICAL RAW MATERIALS

Beatrix Varga, Kitti Fodor

Department of Business Statistics and Economic Forecasting, Faculty of Economics,
University of Miskolc, Miskolc, Hungary

stbea@uni-miskolc.hu

fodor.kitti@uni-miskolc.hu

Abstract: *In the 21st century transportation became one most the most important aspects of our life. People use a lot of ways of travelling to go work or have fun. Nowadays, the most popular innovations are electric cars. For this green solution critical raw materials are needed. Production of a lithium-ion battery requires a wide scale of elements and materials, like cobalt. There are several reasons that cobalt is one of the most important elements. Due to technological improvements in battery production, new types and solutions will become available in the next decade. One of the most anticipated technological developments is the solid battery. Attempts are being made to eliminate cobalt from the production process. An other pessimistic survey from DERA shows that cobalt consumption in the area of e-mobility will likely increase. In summary, critical materials have a serious effect on transportation, and we examined the past, present and the future.*

Keywords: cobalt; CRM; electric car; transport

JEL classification: L62

1. Introduction

In the 21st century transportation became one most the most important aspects of our life. People use a lot of ways of travelling to go work or have fun. Therefore, wide scale of products transported by countries or companies across planet Earth. The history of transportation began in ancient times, but it became even more important in the last three hundred years. During these centuries, many means of transportation were created and developed, like trains, airplanes and ships. Moreover, there is a tendency for all possible transportation technologies to evolve to a higher level at an ever faster pace. Nowadays, the most popular innovations are electric cars. For this green solution some essential things are needed, called critical elements or critical raw materials, such as graphite and cobalt. Several other critical raw materials are necessary in the production of automobile components, as listed in Figure 1. In other transportation systems, the tendency is the same.



Figure 1. Critical elements used in various components of a modern motor vehicle
Source: Universiteit Leiden

The ranking of critical materials is influenced by technological improvements day by day, so the list of these elements continuously changes. The European Committee created surveys in 2011, 2014 and 2017 of materials to be monitored on its list of critical elements. Based on the survey results, elements labeled critical elements are those that have high significance for the economy and that have high supply risks .

2. Electric cars and cobalt

What is an electric car? The Answer is so simple: a car whose powertrain is operated by an electric engine. When do you think the first electric car was designed? The first electrically powered car was built in the late nineteenth century. In present times the most popular pioneer of this technology is Tesla. This company started the mass production of electric cars in 2008. Tesla cars use lithium-ion batteries to store electric charges. Electric cars are spreading fast due to their zero local carbon-dioxide emissions. As is visible in Figure 2, the number of electric cars has increased dramatically in Hungary, but in spite of this increase, the rate of electric cars was only 0.06 percent of vehicles on the road in 2017.

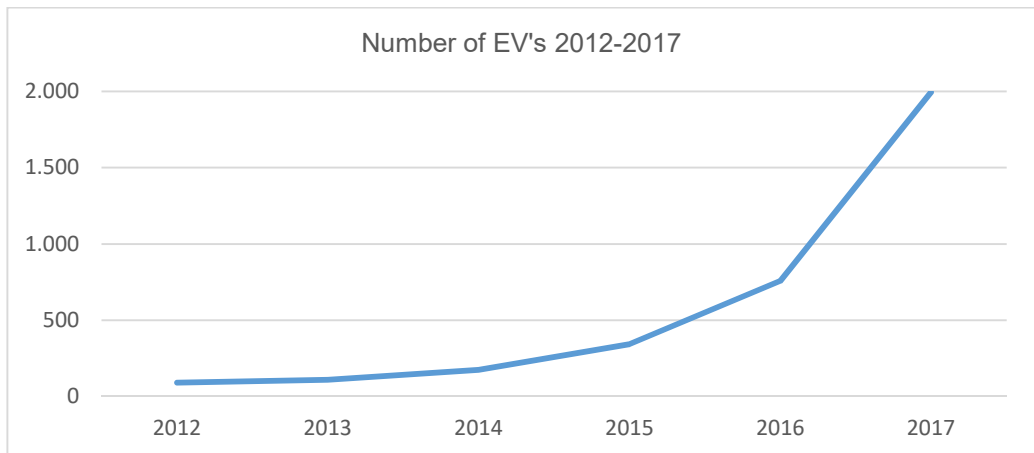


Figure 2. : The number of electrical vehicles registered in Hungary, 2012–2017
Source: Eurostat

Other countries are experiencing a similar trend. But the number of electric cars for example in Norway and in Japan is significantly higher than in Hungary. Norway is paying close attention to this green solution.

Production of a lithium-ion battery requires a wide scale of elements and materials, like lithium, cobalt, nickel, graphite, aluminium and copper. Many of these elements appear on the 2017 critical materials list of the European Committee. One of the most critical elements is cobalt. There are several reasons that cobalt is one of the most important elements. One reason is that the main supplier is the politically instable the Democratic Republic of the Congo. Another is that cobalt is mined as a by-product.

Due to technological improvements in battery production, new types and solutions will become available in the next decade. One of the most anticipated technological developments is the solid battery. It is important to highlight that the base material of this improvement is lithium. Attempts are being made to eliminate cobalt from the production process due to the problems mentioned above.

3. What is the future?

In 2013 and 2014 PwC made a study about the future of electric cars. In economic terms, the use of electric cars has both benefits and costs. The first of these is the group of different financial incentives, which in the case of the EU is about 5000 EUR/car, which may include tax breaks and free parking. In order for electric cars to become more and more popular, it is necessary to build an appropriate charging station infrastructure; the total cost for this could be close to EUR 120 million. As we mentioned, the use of electric cars may generate tax benefits, and since these vehicles do not require petrol or gas oil, the tax and revenue from these products is expected to decrease. The last measurable factor is the CO₂ emissions. The local emissions of electric cars are zero, so CO₂ emissions are expected to decrease; this means that the unnecessary CO₂ quota can be sold.

Many people see one of the biggest disadvantages to electric cars as its low operating range. Another problem is the fact that after its battery is discharged, a lot of time is required for recharging. Battery researchers are focusing on extending the operating range of cars, increasing the capacity of batteries and reducing the charging time. The design of the future by one automotive factory is production of a car with a 640 km operating range and a charging time of nine minutes. If this dream comes true, it means the next step of life of electric cars, because it makes them a sustainable solution to replace traditional cars. Prototypes are expected to be available at the beginning of 2021. The final problem is the price; the cost of such an electric car is around USD 100,000. In spite of the price, forecasts show the market share of electric cars is expected to grow several times higher than the 2017 figure of under 5% in the next 10 years.

A pessimistic survey from DERA shows that cobalt consumption in the area of e-mobility will likely increase from 8.2% to 26% by 2026 and 55% of this consumption will be used in battery production. According to another survey from Bloomberg, consumption of materials like cobalt, graphite and lithium will increase from less than 1,000,000 metric tons in 2018 to 7,000,000 metric tons in 2030. From these predictions, we can assume that in ten years a large number of batteries will be using cobalt and sales of electric vehicles will have increased considerably.

It is important to consider demand from customers, since the problems described above have a significant effect on the market for electrical cars. An international research study surveyed customers in 2015 and 2018 on their opinions about electric cars. It found that the concerns of customers during the purchase of an electric vehicle.

The three main problems are – as mentioned above – the price, the operating range and the charging time. Interestingly, the number of potential customers concerned with the range and price dropped by 10%, while a larger number of people listed charging time as a negative factor in 2018. These factors should be taken into account in the design of electric vehicles.

4. Conclusion

We are living in a world where innovations follow each other day by day. We are eye witnesses to the phenomenon that a now-new technology may be obsolete by tomorrow, replaced by something even newer. In our opinion this is true for transportation as well. Scientists are looking for new, better solutions for problems. This tendency affects the constantly changing list of strategically important materials, elements and countries. Based on forecasts, the lead price of new technologies will decrease and the consumption of expensive critical materials during production will also decrease, contributing to lower prices for electric vehicles.

In summary, critical materials have a serious effect on transportation, but new research is focusing on improving technology day by day, to find smart solutions and implement their findings that will make this industry more sustainable and will influence (and be influenced by) the list of critical raw materials.

Acknowledgement

The described work was carried out as part of the “Sustainable Raw Material Management Thematic Network – RING 2017”, EFOP-3.6.2-16-2017-00010 project in the framework of the Széchenyi 2020 Program. The realization of this project is supported by the European Union, co-financed by the European Social Fund.

References

- Akkumulátorgyártás és a kobalt ára (2019) [online], Available: <https://kiszamolo.hu/akkumulatorgyartas-es-a-kobalt-ara/> [02 Nov 2019]
- CriticEI – Kritikus Elemek [online], Available: <http://kritikuselemek.uni-miskolc.hu/> [15 Oct 2019]
- CRM Alliance [online], Available: <http://criticalrawmaterials.org/> [14 Oct 2019]
- DERA (2018): Rohstoffrisikobewertung – Kobalt [online], Available: https://www.deutsche-rohstoffagentur.de/DE/Gemeinsames/Produkte/Downloads/DERA_Rohstoffinformation/en/rohstoffinformationen-36.pdf;jsessionid=4A36774E1E4F6F074C9E204FF6E78588.2_cid331?_blob=publicationFile&v=2 [28 Oct 2019]
- Elektromos autók: lesz-e elég akkumulátor? (2018) [online], Available: <https://kiszamolo.hu/elektromos-autok-lesz-e-eleg-akkumulator/> [26 Oct 2019]
- Eurostat [online], Available: <https://ec.europa.eu/eurostat/home?> [10 Oct 2019]
- Korán, I., (1980) Világmodellek - A Római Klub jelentéseitől az ENSZ kezdeményezéséig.
- László, E. e. a., 1978. Goals for Mankind. Scarborough: The New American Library of Canada Limited.
- Little, A. D., : Future of automotive mobility – reloaded, [online], Available: https://www.adlittle.sg/sites/default/files/viewpoints/adl_future_of_automotive_mobility_global_study_executive_summary-min_0.pdf [05 Nov 2019]

Materials critical to the energy industry (2012), [online], Available: https://www.mrm.uni-augsburg.de/de/gruppen/reller/downloads/Materials_Handbook_Rev_2012.pdf [04 Nov 2019]

Máth, D., (2019): Túlpörgött termelés, esik a lítium ára [online], Available: https://totalcar.hu/magazin/hirek/2019/08/03/tulporgott_a_termeles_esik_a_litium_ara/ [02 Nov 2019]

Owano, N., (2018) Cobalt-free batteries: The long goodbye, [Online], Available: <https://techxplore.com/news/2018-06-cobalt-free-batteries-goodbye.html> [24 Oct 2019]

Meadows, D. H., Meadows, D. L. & Randers, J., 1992. Beyond the Limits. London: Earthscan publications Limited.

Statista [Online], Available: <https://www.statista.com/>, [27 Oct 2019]

Rare Earth Supply Chain and Industrial Ecosystem: A Material Flow Assessment of European Union (2015), [Online], Available: <https://www.universiteitleiden.nl/en/research/research-projects/science/cmlrare-earth-supply-chain-and-industrial-ecosystem-a-material-flow-assessment-of-european-union> [02 Nov 2019]

The International Raw Materials Observatory [online], Available: <https://inraw.eu/reports-factsheets/> [23 Oct 2019].

Varsányi, P.: Tévhitek és valóság - egyszerűen! [online], Available: <https://varsanyipeter.hu/tevhitek2.pdf> [29 Oct 2019].

INCORPORATING TECHNOLOGICAL DEVELOPMENTS IN TEACHING ECONOMICS

Mihaela MOCA

Doctoral School of Economic Sciences, Faculty of Economic Sciences, University of Oradea, Romania

moca.mihaela@gmail.com

Abstract: *Computer technology and internet applications play a growing role in economic pedagogy and received an increasing attention in the economic education literature. During the last decade using internet tools, and in particular social media platforms, blogs and computer games become customary throughout economic education. In the present work, we discuss various aspects and their implications in learning outcome using such computer technologies. While social platforms have proved their useful role in teaching and learning process, the role played by the computer games is still under debate. In particular, the author developed a Kahoot game (application) and study its implications in the teaching process.*

Keywords: computer technology, games, social networks, blogs

JEL classification: A20, A21, A22

1. Introduction

The recent technological developments had a profound effect on the society and in particular to teaching and learning activities. Because of that the entire society experienced fundamental changes and needed to adapt to keep pace with the rapid developments. These changes affect the educational process as well and introduced new ways of transmitting information. Nowadays, using computer technology to teach economics in classes at the high school and university levels is no longer a novelty, moreover it represents a significant component of the instructor's toolkit. In this context, we can mention the UNESCO *Report of the International Commission on Education for the Twenty-first Century, 1996*) in which a thorough list of recommendations was proposed on how to improve the quality of the educational process by using new technologies both for students but as well for adults (UNESCO (1996)).

Information technologies have developed in various ways and some of these branches were successfully adapted to the educational process. Most of them, such as graphical tools, searching engines, electronic manuals, databases, electronic libraries, social media requires the usage of computers. As the matter of fact, today the computer is probably the most important learning tool, as many of the other devices are inevitably connected to it. Furthermore, young generation adopted the technology fast, and use all these facilities heavily (Goffe and Sosin (2005)). Beside the computer, the smartphone and the electronic tablet are also heavily used by the students. They can browse the internet and they can answer messages or emails on the fly and constantly use social media networks. Most of the students reported that using the internet had a positive effect on their experience, allowing them, for example, to clarify economical concepts that were less understood in classes.

Furthermore, social media provides an efficient way for educators to share the ideas with the students, although the instructors spend more time in preparing the notes in contrast to non-technology instructors (Sosin et.al. 2004). It also allows the students to interact with each other, to share information and ideas. Some of the most popular platforms nowadays are Twitter, Instagram and Facebook, to mention a few, so choosing one platform in particular depends on the needs of the instructor, but also on the local popularity of that platform. Kassens (2014) provides general guidelines on how to use such platforms on delivering knowledges to the students. Still, incorporating one platform in teaching presents some drawbacks as well, as privacy concerns remain a major issue (Al-Bahrani 2015).

Not at the last, blogs provide a dynamic interactive environment that allows to combine online discussions, posting text and provide commentary. They have become increasingly prevalent online as the internet hosts a few hundreds of millions by now. Cameron (2012) found that using qualitative data posted on such a blog improved the learning outcome and moreover, the students reported an overall positive experience by initiating or simply participating to discussion assigned by the instructor on the blog.

2. Using technology in the teaching process

The widespread use of computers decreases the average of time lecturing from about 73% in 1995 down to 65% in 2010 (Watts and G.Schaur (2011)), indicating that the instructors try to find new ways of transmitting the information to students. In a survey carried on by the Andrew F. Mellon Foundation (Sosin (2004)) an important issue was analyzed: Are the technologically enhanced economics courses more efficient than traditionally taught courses? The survey was done by constructing an extensive database, enrolling around 4000 students taught by 30 instructors across 15 institutions. The result was that using various technological instruments it has a small but positive impact on student's performance, while the technology and non-technology instructors spent similar amounts of time in preparing lectures.

In the present paper we shall further discuss such specific tools used in teaching economics. We shall focus on the role of incorporating social media platforms, blogs and game-based learning techniques on the teaching process.

2.1. Social media platforms

Online media platforms as well as blogs permit registered users to post and read messages, add comments on other's posts, share news, ideas and documents. In general, the social service is free and well maintained and can be accessed from various platforms including computers, tablets or smartphones. Furthermore, it can be personalized using a variety of templates. Social media is increasingly used in higher education (Dahlstrom 2014) and can have large potential in the educational context.

In particular, Facebook is a platform that support teaching and learning due to its functionality that offer participation in private groups. Several studies have been done on the impact of Facebook when is used in the class. A survey focused on how students enrolled in doctoral programs took control on their own community, by creating and building private Facebook groups for the purpose of communication and support was carried by Kenney' et al. (2013). It demonstrated that the community of practice can be developed among doctoral students in a social platform, but the motivation it has to come from the participants, and that Facebook groups can be used for support learning.

In other research paper, Kassens (2014) study the role of Twitter in teaching economics. Among the benefits he found that Twitter allows expanding the classroom

to become part of a larger community but more importantly it increases the student's engagement and show students how to cope with social media responsibility. One drawback is likely not be suitable to be used in large classes. Twitter has further been evaluated by Al-Bahrani et al (2017) to complement the previous study of Kassens (2014) by using an experimental design framework for students in microeconomics classes across different institutions, to see if Twitter improves learning outcomes. They do not find nor a positive effect neither that Twitter is ineffective as a pedagogical tool, as the learning outcome being no different when compare with the simple blackboard and chalk learning tools.

2.2. Blogs

The use of blogs as teaching and learning tools was also studied (Ferdig and Trammell (2004), Jonnasen(1999)). It was found that the optimal implementation of a blogs is likely to be context specific, but with no commonly accepted set of principles for its use as a learning tool. Cameron (2012) has introduced a blog assignment into economics classes and students had compulsory to contribute by initiating discussions and writing comments. The main focus was the research question: Did blog participation contribute to better learning outcome? The result showed that students performed better in the final examination and that the quality of the blog contributions is in general associated with better student's performance.

2.3. Games for teaching economics

The online games, single or multiplayer for teaching economics or business education played over one to several days are becoming more popular. Except for some particular cases (Vogel (2006), Silzmann (2011)) who concluded that serious games generally improve cognitive learning, most of the educational games have not been supported by any body of research, as the relation between the play context and the pedagogical gain is lacking. Contrary, Dobrescu, Greiner, Motta (2015) found that playing did not lead to lower/higher exam performance, when compared to simply reading the exam material, except that the students enjoyed more the game. That is maybe the reason why this teaching strategy is seldom used in classes, in contrast with other web-based activities.

Still, considering that for most of the students macro/microeconomics is very abstract and they have difficulties grasping the real meaning of the concepts, using specifically developed computer network simulation games where players make decisions may be quite a good strategy.

For example, Woltjer (2010) implemented such a simulation game for teaching macroeconomics called *Steer the Economy*, that can be used for a lot of different levels to gain theoretical knowledges. Still, it turns out to be useless for teaching when students are not able to analyze the causality/response effect in economy. In a more recent attempt, Ng (2019) set up a video game developed for a hybrid principles of microeconomics course comprised of several modules assigned to players and to be played during the semester. The game "The Seven Wonders of Economics" demonstrated the feasibility of using such games to supplement traditional lectures.

Kahoot.com is a learning platform based on gamification which is available for free to both students and instructors. It provides tools for the instructors to create online games called Kahoots. The users have the possibility to try already created games and adding their own contribution. Similar to social networks it promotes discussions, sharing ideas, and it allows Kahoots to be organized as assignments for students. The main quality of the platform is its flexibility combined with simplicity, which makes it a viable alternative to game learning. The platform was used by the author in 2017-2018 to evaluate students. The outcome indicated that the students were responsive to

gamification of the economical concepts and scored in general higher when compared to classical blackboard teaching.

3. Conclusions

Computer technology, and in particular the Internet, enhance the communication between the instructor and the students and simplify the access to information. During the last decades it become customary to use it in various ways in the educational process. In this article we discussed some implications of the recent technological developments in transferring knowledges to students. In particular, we have discussed the role played by the social media platforms, blogs and computer games in teaching economics. Most of the studies indicate that social media platforms and blogs are in general benefic to teaching as is develop further the writing and communication skills. Regarding game platforms, at present there is not yet a general opinion on their effect on learning outcome, mostly due to the lack of studies.

The author itself used a game platform (Kahoot.com) and developed its own game (application) with positive effects on the learning process, but further studies are definitely necessary for a thorough understanding of the benefits of using games in the teaching process.

References

- Al-Bahrani, A., and Patel, D. (2015). *Incorporating Twitter, Instagram and Facebook in the economics classroom*, Journal of Economic Education 46 (1): 56-67.
- Al-Bahrani, A, Patel, D & Sheridan, B. J. (2017) *Evaluating Twitter and its impact on student learning in principles of economics courses*, The Journal of Economic Education, 48:4, 243-253
- Cameron M.P. (2012) *'Economics with Training Wheels': Using Blogs in Teaching and Assessing Introductory Economics*, The Journal of Economic Education, 43:4, 397-407.
- Dahlstrom, E., and Bichsel, J. (2014). *ECAR study of undergraduate students and information technology* (Research report). Louisville, CO: ECAR. Retrieved from <http://www.educause.edu/ecar>
- Dobrescu, L. I., Holden, R., Motta, A. and Wong, C. (2018). *Fun in education*. Available at <http://dx.doi.org/10.2139/ssrn.2772371>.
- Ferdig, R. E., and Trammell, K.D. (2004). *Content delivery in the "blogosphere"*. Technological Horizons in Education (31) 12-20.
- Goffe, W. L., and Sosin, K., (2005) *Teaching with Technology: May You Live in Interesting Times*, The Journal of Economic Education, 36:3, 278-291
- Jonassen, D. H. (1999). *Designing constructivist learning environments*. In Instructional-design theories and models (vol.II), ed. C. Reigeluth, 215-39. Mahwah, NJ: Erlbaum.
- Kassens, A. L. (2014). *Tweeting your way to improved #Writing, #Reflection, and #Community*. Journal of Economic Education 45 (2): 101-9.
- Kenney, J., and Kumar, S., and Hart, M., (2013) *More than a social network: Facebook as a catalyst for an online educational community of practice*. Int. J. Social Media and Interactive Learning Environments, 1 (4): 355-369
- Ng, C.F., (2019) *A video game to supplement a hybrid principles of microeconomics course*, The Journal of Economic Education, 50:1, 44-56

Sosin, K., Blecha, B. J., Agarwal, R., Bartlett, R. L. and Daniel, J. I. 2004. *Efficiency in the use of technology in economic education: Some preliminary results*. American Economic Review 94:253–58.

Sitzmann, T. (2011). *A meta-analytical examination of the instructional effectiveness of computer-based simulation games*. Personnel Psychology 64 (2): 489-528.

UNESCO (1996) [Online] Available: http://www.unesco.org/education/pdf/15_62.pdf

Vogel, J. J., D. S. Vogel, J. Cannon-Bowers, C. A. Bowers, K. Muse, and M. Wright. 2006. *Computer gaming and interactive simulations for learning: A meta-analysis*. Journal of Educational Computing Research 34 (3): 229-43.

Watts, M., and Schaur, G. (2011). *Teaching and assessment methods in undergraduate economics: A fourth national quin-quennial survey*. z

Woltjer, G. B (2005) *Decisions and Macroeconomics: Development and Implementation of a Simulation Game*, The Journal of Economic Education, 36:2, 139-144.

APPLIED MATHEMATICAL DEMOGRAPHY

Alexandrina-Florina TEUȘDEA

Doctoral School of Economic Sciences, University of Oradea - Faculty of Economic Sciences, Romania

teusdea@gmail.com

Abstract: *Among all the questions that demographers seek to answer, the one: in which direction and to what extent does rapid population growth affect development, is truly important for policy. In the classic theory, rapid growth means many children. The children have to be fed, clothed, and educated, and costs is divided between parents and the state, it requires resources that compete with industrial and other investments. In addition, children grow up and want jobs, and hence growth requires that a larger labor force be provided with capital goods. Thus a fast-growing population is doubly handicapped. In recent years sociologists, public health officers, and students of population problems have been taking an increasing interest in the life table as a description of the age-variation in the chances of death and survival. As a result of this interest in the subject, attention has been focused on rapid methods of constructing abridged life tables.*

Keywords: *demography, mathematic, population, growth, life, table*

JEL classification: C390

1. Introduction

Mathematical demography has a distinguished early history, intertwined with discoveries by the great figures of mathematics.

On the intellectual side, the classics of the field represent essential nourishment for the modern demographer, giving a sense of the long history of demographic science as well as to see the insights of classic discoveries as their discoverers framed them. This paper age is the characteristic variable of population analysis.

Mathematical demography has its modern beginnings in the gradual development of correct procedures for forming life tables. Leonard Euler was the first who introduced stable age distributions.

Then, the mathematician Girolamo Cardano made the assumption that a man who took great care in all things would have a certain life expectancy, so that for $e = \alpha - x$, for all ages x , and then asked what part of this might be forfeited by a relaxation of prudence. He proposed letting life expectancy fall by $1/40$ of its value during each year in which a man was reasonably careful but not fastidious: by the nature of the life expectancies, a man might be born with the prospect of living say 260 years and yet die at age 80, having every year thrown away by inattention a part of what remained to him. A modern interpretation would be that a cohort carries its life table with it. The result was not generalized to populations.

2. Life table

Life-table construction consists in the estimation of parameters and tabulation of functions like those above from empirical data. The data can be for age at death to

individuals or other data. The method of estimation depends on the character of the data.

Life table techniques developed very gradually over the ensuing century, with notable work by Sir Edmund Halley (1656–1742). The methods of calculation Halley used in his life table were partly informal, as in his remarks on stationarity and in his unorthodox subtraction (where l_x is the number of survivors to exact age x in the life table from among l_0 births and L_x represents the number between ages x and $x+1$) $890 [= l_1] - 198 = 692 [= L_6]$ explained by the oblique statement: “198 do die in the Five Years between 1 and 6 compleat, taken at a Medium.”

Malthus has established as a principle that the human population tends to increase in geometric progression so as to double after a certain period, for example every twenty-five years.

The effective growth of the population thus finds a limit in the extent and fertility of the country, and the population, in consequence, tends more and more to become stationary. To judge the speed with which the population grows in a given country, it is necessary to divide the increase of the population in each year by the population which furnished it. The relationship, being independent of the absolute size of the population, can be regarded as the measure of this speed. If it is constant the population increases in a geometric progression; if it is increasing the progression is greater than geometric, and less than geometric if it is decreasing.

The growth of the population necessarily has a limit, if only in the extent of the soil indispensable for the lodging of this population. When a nation has consumed all the fruits of its fields, it can to be sure procure supplies from abroad through the exchange of its other products, and support in this way a new increase of population. But it is evident that these importations must have limits and stop a very long time before the entire of the country is converted to cities. All the formulas by which one attempts to represent the law of population must thus satisfy the condition of admitting a maximum which is attained only in an epoch infinitely distant. This maximum will be the number of the population when it becomes stationary. The demographers tried for a long time to determine by analysis the probable law of population; but they abandoned this type of inquiry because data from observations are too scarce for the formulas to be verified in such a way as not to leave doubt about their exactness. It is necessarily to lead to knowledge of the true law when the data become sufficient, and as the results they have arrived at may be of interest, at least as an object of speculation.

The rate of population increase in a limited area at any instant of time is proportional (a) to the magnitude of the population existing at that instant (amount of increase already attained) and (b) to the still unutilized potentialities of population support existing in the limited area. The following conditions should be fulfilled by any equation which is to describe adequately the growth of population in an area of fixed limits:

1. Asymptotic to a line $y=k$ when $x= +\infty$.
2. Asymptotic to a line $y = 0$ when $x = -\infty$.
3. A point of inflection at some point $x = \alpha$ and $y= \beta$.
4. Concave upwards to left of $x=\alpha$ and concave downward to right of $x=\alpha$.
5. No horizontal slope except at $x= \pm \infty$.
6. Values of y varying continuously from 0 to k as x varies from $-\infty$ to $+\infty$.

In these expressions y denotes population, and x denotes time.

Our only purpose in presenting them at all at this time is to demonstrate that the hypothesis here advanced as to the law of population growth, even when fitted by a rough and inadequate method, so closely describes the known facts regarding the past history of that growth, as to make it potentially profitable to continue the mathematical development and refinement of this hypothesis further.

3. Conclusion

There is much that appeals to the reason in the hypothesis that growth of population is fundamentally a phenomenon like autocatalysis. In a new and thinly populated country the population already existing there, being impressed with the apparently boundless opportunities, tends to reproduce freely, to urge friends to come from older countries, and by the example of their well-being, actual or potential, to induce strangers to immigrate. As the population becomes more dense and passes into a phase where the still unutilized potentialities of subsistence, measured in terms of population, are measurably smaller than those which have already been utilized, all of these forces tending to the increase of population will become reduced.

References

- Arthur WB (1982) *The ergodic theorems of demography: A simple proof*. *Demography* 19(4):439–445.
- Arthur WB, Vaupel J (1984) *Some general relationships in population dynamics*. *Population Index* 50:214–255.
- Barbi E, Bertino S, Sonnino E (eds) (2004) *Inverse Projection Techniques: Old and New Approaches*. Springer, Berlin.
- Bongaarts J, Feeney G (1998) *On the quantum and tempo of fertility*. *Population and Development Review* 24(2):271–291.
- Girosi F, King G (2008) *Demographic Forecasting*. Princeton University Press, Princeton, NJ.
- Lee RD (1974) *The formal dynamics of controlled populations and the echo, the boom, and the bust*. *Demography* 11:563–585.

EDUCATION – INVESTMENT IN THE HUMAN CAPITAL

Ciprian Constantin Pătrăuceanu

Doctoral School of Economic Sciences, the University of Oradea, Romania

patrauceanu@yahoo.com

“Europe has moved towards a knowledge-based society and economy. More than ever before, access to up-to-date information and knowledge, together with the motivation and skills to use these resources intelligently on behalf of oneself and the community as a whole, are becoming the key to strengthening Europe’s competitiveness and improving the employability and adaptability of the workforce... More than ever before, individuals want to plan their own lives, are expected to contribute actively to society, and must learn to live positively with cultural, ethnic and linguistic diversity. Education, in its broadest sense, is the key to learning and understanding how to meet these challenges”. (A Memorandum on Lifelong Learning, EC 2001)

Abstract: *The European Union manages a comprehensive action of economic inclusion for the countries in Central and Eastern Europe, thus contributing to the institution of a rich European cultural treasury, the identification of the importance granted to the diverse values of the peoples after the privations endured by the oppressive regimes. A highly stringent matter currently is the formation, development, exploitation or capitalisation related to the human capital in its various roles overall, such as economic, social, cultural, individual, collective, regional, national and global. In order to invest the human capital, we take into account various uncertainties, risks, challenges of the current society, referring to diverse contents and to the learning period, to the advantages of this intangible investment, of the potential deficit as a consequence of failing to exploit the human capital within that society.*

Keywords: education; formation; human capital; exploitation; economics.

JEL classification: A14.

1. The notion. Increase and decrease

The notion of the human capital is anything but new in the history of the economic sciences. According to Adam Smith, an important form of the human capital becomes concrete through learning, *“...of the acquired and useful abilities of all the inhabitants and members of the society ...Those talents, as they make a part his fortune, so do they likewise of that of the society to which he belongs. The improved dexterity of a workman may be considered in the same light as a machine or instrument of trade which facilitates and abridges labour, and which, though it costs a certain expense, repays that expense with a profit”.*(Adam Smith, 1962) Professor Jacques Pelkmans stated for many countries, joining the European Union was actually an economic salvation. *The Social European Agenda* issued by the European Council of Nice would concern *the modernisation and improvement of the social European model*” thus reminding of a major principle in Lisbon, upon which the members of the European Union agreed. *People are Europe’s main asset and should be the focal point of the*

Union's policies". A strategic objective discussed in Stockholm within the European Council was for the European Union "to become the most competitive and dynamic knowledge-based economy in the world, capable of sustained economic growth with more and better jobs and greater social cohesion". Such objective is closely related to the field of education and to professional training, thus highlighting the idea of adapting the various European educational systems and the professional training to the society's knowledge demands and to the diverse necessities related to an improvement of the quality and employment of workforce. It may be stated that the global evolution in the origin of investments in human capital may be a plausible response, which society ascribes to the various challenges entailed by the passage to a knowledge-based society and to the globalisation process. Currently, this human capital becomes an integrating, interdisciplinary, multidimensional, multifactor notion, a machine that can mobilise the economic and human potential of society. It can also mobilise responsibility, involvement and participation to the decisions within a community, different analyses and groundings of the decisions, of highlighting the entire package of macroeconomic measures, along with those within education system and lifelong learning from the perspective of both health and social security (Steliana Perț, 2001). *Adam Smith*: among the various capacities eligible of bringing to a person an income for the future, related to the intellectual and professional field: ... *the difference between the most particular individualities... they seem to derive not that much from nature, as from habits, morals and education*". *Gary Backer* coins the phrase "*investment in the human capital*", wishing to highlight the connection between the various costs in the field of education and those incomes pertaining to a farther future. In his opinion, the citizens of each state represent a capital similar to natural resources or infrastructure (Gary Backer, 1997).

2. Priority determinations and mechanisms

Among the major objectives highlighted in the Memorandum concerning lifelong learning, there is one referring to *Amplifier investments in human resources to give priority to the most important capital of Europe – its citizens* (p. 20). From a practical point of view, the current dimension of human capital investment is limited concerning the needs of rapid accumulation of knowledge and skills, of a shorter period for learning, either formal or non-formal, even after the period of joining production. "*Employability – the capacity to secure and keep employment – is not only a core dimension of active citizenship, but it is equally a decisive condition for reaching full employment and for improving European competitiveness and prosperity in the 'new economy'. Both employability and active citizenship are dependent upon having adequate and up-to-date knowledge and skills to take part in and make a contribution to economic and social life.*" (A Memorandum on Lifelong Learning, 2001). Furthermore, they also depend on human capital investment, on the individual and collective argument. Educational capital is an important part of human capital, comprising various distinct modalities. Hence, we may encounter skills already acquired by participating in various educational systems, various notions recognised through diplomas, lifelong learning, which may entail self-teaching but most of the times participation to courses organised with persons specialised in certain fields of training and that were finalised with a maximum set of notions. An essential element in economic development is represented by educational capital, often seen as a profitable and long-term investment. Because education may become an important vector in economic progress, economic modernisation may mean various opportunities for additional workforce procurement. This is motivated by the fact that knowledge or

“literacy” should never be neglected by the persons who most often propose various social, regional or economic policies. Low education level within the community determines an increasing number of persons with low qualification. Educational level may be associated most often with income level; hence, a part of the inhabitants of the community in question is poorer, and the low training level in the rural areas may also be associated with ageing. In the European Union, school population in 2014 was 106.8 million, more than half of which lived in Germany, accounting for 15%, followed by France with 14.1%, and Great Britain, with 13,9%; it is also worth mentioning Italy, accounting for 10.2%.

Table 2.1. Structure of pre-school and school population by education level in the EU-28 level, in the year 2014

	Total school population (persons)	Percentage of pre-school and school population by education level (%)					
		Pre-school	Primary school	Middle school	Lower secondary	Upper secondary	Higher education*
EU- 28	106772317	14.4	26.5	19.4	19.9	1.5	18.3
Belgium	3012779	15.4	25.7	14.4	25.8	2.3	16.4
Bulgaria	1303836	18.4	19.9	17.8	22.0	0.2	21.7
Czech Republic	2139286	17.2	23.9	17.1	19.4	2.9	19.5
Denmark	1513888	12.6	30.9	16.0	20.6	:	19.9
Germany	15969735	13.9	17.9	29.0	16.2	4.8	18.2
Estonia	294848	23.3	26.2	12.5	13.9	3.8	20.3
Ireland	1223826	6.4	43.8	15.3	13.1	4.7	16.7
Greece	2151213	7.5	29.2	14.6	16.4	0.8	31.5
Spain	9674213	14.9	30.6	16.8	17.2	:	20.5
France	15141701	17.0	27.7	22.1	17.2	0.2	15.8
Croatia	805517	13.4	20.0	22.9	23.1	:	20.6
Italy	10985398	15.1	26.1	16.3	25.5	0.1	16.9
Cyprus	168581	13.5	31.5	16.5	18.3	0.2	20.0
Latvia	408588	19.3	28.1	13.4	16.3	1.0	21.9
Lithuania	650334	15.2	16.6	29.4	13.3	2.7	22.8
Luxemburg	106482	15.7	33.3	20.6	23.4	0.6	6.4
Hungary	1985790	16.6	19.8	19.5	23.7	3.8	16.6
Malta	78474	11.3	30.7	16.3	22.2	3.4	16.1
Netherlands	3238655	15.8	37.8	24.7	:	:	21.7
Austria	1705896	14.0	19.2	19.6	21.3	1.2	24.7
Poland	8126966	16.0	26.5	14.1	18.3	3.4	21.7
Portugal	2081827	12.7	32.4	18.4	18.5	0.6	17.4
Romania	3805043	14.9	24.9	21.2	21.1	2.7	15.2
Slovenia	407182	14.7	27.4	13.4	22.3	:	22.2
Slovakia	1051484	15.1	20.3	24.5	19.7	1.6	18.8
Finland	1413461	13.9	24.9	12.7	25.3	1.6	21.6
Sweden	2478059	17.8	30.5	13.1	20.3	1.0	17.3
Great Britain	14849255	9.6	30.4	15.9	28.3	:	15.8

Source: Eurostat –

http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=educ_uae_enra01&lang=en;

: no data available

*including master studies, postgraduate studies and doctoral studies

References

- Backer S. Gary (1997), *Capitalul uman. O analiză teoretică cu referire specială la educație*, București, Editura ALL.
- CE (1997), *La résolution du Conseil Européen sur la Stratégie Européenne pour l'emploi*, CE, Luxembourg.
- CE (2000), *Décision du Conseil sur les lignes directrices pour les politiques de l'emploi des États Membres*, CE, Bruxelles.
- EC (2000), *Le rapport conjoint sur l'emploi*, CE, Bruxelles.
- EC (2001), *A Memorandum on Lifelong Learning*, EC, Brussels
- http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=educ_uae_enra01&lang=en;
- <http://gicavisan-edutic.blogspot.com/2011/03/invatarea-permanenta.html>
- http://www.insse.ro/cms/sites/default/files/field/publicatii/proiectarea_populatiei_scolare_din_romania_la_orizontul_anului_2060_0.pdf
- http://www.revista.forter.ro/2011_1_t/05-inv/02.htm
- INS (2016), Institutul Național de Statistică, Proiectarea populației școlare din România, la orizontul anului 2060.
- Perț Steliana (2001), *Capitalul uman – factor cheie al creșterii economice durabile. Convergențe și divergențe*, Colecția Probleme Economice, nr.22,23,24,CIDE.
- Perț Steliana (2002), *Ocuparea forței de muncă din perspectiva racordării la coordonatele Strategiei Europene pentru ocupare*, Academia Română, Grupul de reflecție „Evaluarea Stării Economiei Naționale”, ESEN-2 Integrarea României în Uniunea Europeană, București, CIDE.
- Smith Adam (1962), *Avuția Națiunilor. Cercetare asupra naturii și cauzelor ei*, vol. I, București, Editura Academiei Române.

COORDINATION OF GREEN SUPPLY CHAIN WITH THE HELP OF WHOLESALE PRICING CONTRACT

Tamas Faludi

University of Miskolc, Faculty of Economics, Institute of Management Science, Miskolc, Hungary

szvft@uni-miskolc.hu

Abstract: *Because of the eco-consciousness and the environmental protection companies become 'green', therefore many green supply chains are realized in the business sphere. The biggest problem is the coordination of these chains. It could be a potential good solution, if the chain members use the different contract types to coordinate the chain. This paper introduces the contract types, which can be used effectively in the case of green supply chain and its different settings. Numerical example is also include to prove the assumption.*

Keywords: Supply Chain Coordination, Contract Types, Green Supply Chain Management

JEL classification: D21, L11, L14, M10

1. Introduction

Nowadays the eco-consciousness tries to gathering ground both in the civil and the business sphere. Humanity realizes that the store of energy of Earth is not endless, that's why alternative solutions are needed. These solutions are destined for stop or at least decrease the pollution, therefore the selective waste collection, or the CSR can be also the part of these solutions, because it deals with the relationship between the environment and the company.

More and more companies use some eco-conscious methods, which results the eco-consciousness is extended to the whole partnership or the whole network. Therefore if they constitute a supply chain, this supply chain can be a green supply chain.

The biggest problem of the supply chain management is the coordination. There are many types to coordinate the supply chain, but mainly we identify two big groups. First is the soft tools – they use the behavior science to coordinate the chain, for example the question of motivation, communication, information-sharing mechanisms, loyalty, etc. The second one is the hard tools, such as finance, IT, and the contract types.

This paper is based on the coordination of green supply chain with the help of the different contract types. I analyze the contracts, which usually used in the case of a green supply chain, and I compare which one is the most effective.

2. About the green supply chain management

The first concept of green supply chain was appeared in the beginning of the 2000s, and it was called environmentally conscious supply chain management (ESCM) by Zsidisin and Siferd (2001). The goals of the ESCM were to create actions and measures to defend the environment. According to Beamon (2005) theory, this approach was not enough – both of the products and processes of the companies have to defend the environment, it does not matter if the effects of these are indirect or direct.

Later, in the year of 2008, Carter and Rogers had a publication about the sustainable supply chain management. It was the second step of the evolution of green supply chains. According to Carter and Rogers, the sustainable supply chain management also prefers the profitability, therefore the profitability has to be combined with the social and the environmental criterias.

After these definitions there was a widespread name of the eco-consciousness management – it was called green supply chain management. Miskolcziné (2017) distinguishes two main approach. First defines the methodologies, processes, tools to reach the eco-conscious goals. Second defines the activities of the green supply chain management, which defines the whole green supply chain management (Miskolcziné, 2017).

So it means, that if we define these activities, we will get the definition of the green supply chain management. If the following activities are realized and these activities are also eco-conscious in the supply chain, the green supply chain is also realized: inverse logistics, product planning, procurement, producing, distribution (Miskolcziné, 2017).

3. Green supply chain coordination by contracts

As a hard tool, contracts can coordinate the supply chain, because contracts try to handle the inequality between the chain members. The inequity can derive from the different levels of dominance in the chain. If a chain member is more dominant than the others, it can provide better conditions in favor of itself – it can be the source of many conflicts. Contracts try to cease the differences and decrease the number of the conflicts, therefore provide a framework for cooperation and they show how partners share risks and benefits in case of uncertain supply or demand (Coltman, et al., 2009).

This paper would like to introduce some of the typically contracts, focused on those that can be applied in the case of green supply chains. Not only the contracts define the performance of supply chains – it depends on the setting of chain.

Centralized setting is preferred by the literature, because in this case, there is a decisionmaker, who controls, manages the whole supply chain and maximizes the profit of the whole supply chain (Giannoccaro, 2018).

In case of decentralized setting, the chain members don't striving after the effective cooperation, they act in accordance with their own interest. It means that the total profit can be less. Thus the cooperation, the information-sharing mechanisms and that's why the effectiveness won't be satisfactory.

I try to find an optimal solution to coordinate the green supply chain with the wholesale pricing contract. This contract type's performance is very different for both settings, but – according the research and the literature – it's used very frequently, that's why I chose this one (Sluis-Giovanni, 2016; Faludi-Molnár, 2017).

4. Numerical example

My analysis is based on the literature reviews, case studies, and some numerical examples. With the help of these informations, I try to find the best way to coordinate the chains with the wholesale pricing contract.

Table 1 summarizes the notations applied in the model.

Table 1: Notations

i; u	constants
P _{market}	market price
P _{unit}	unit price
Q	quantity to be sold
C _{sup}	cost of supplier
C _{man}	cost of manufacturer
∑Π	total profit

Source: Own construction

The analysis compares the total profit, the market price, the unit price and the quantity to be sold in the case of each settings. The comparison is based on a simple supply chain model with two members – a supplier and a manufacturer. The manufacturer satisfies the market’s demand, uses the market price, the supplier gratifies the manufacturer’s needs.

The economic parameters of the calculation are shown by the Table 2.

Table 2: Economic parameters of the calculation

Parameter	Value
i	160
u	2,25
P _{market}	160 – 2,25Q
C _{sup}	55
C _{man}	40

Source: Own construction

There are differences between the calculations of factors about each supply chain settings.

The (1), (2) and (3) equations show the total profit, the quantity to be sold, and the unit price, if the partners use wholesale pricing contract in case of centralized supply chain.

$$\text{CEN; } \sum \Pi = (i - uQ - \sum C)Q \tag{1}$$

$$\text{CEN; } Q = \frac{i - \sum C}{2u} \tag{2}$$

$$\text{CEN; } P_{\text{unit}} = \frac{P_{\text{market}} - C_{\text{man}} + C_{\text{sup}}}{2} \tag{3}$$

The (4), (5) and (6) equations calculate the previously represented values, but in this case the supply chain is decentralized.

$$\text{DEC; } \sum \Pi = \frac{3(i - \sum C)^2}{16u} \tag{4}$$

$$\text{DEC; } Q = \frac{i - P_{\text{unit}}}{2u} \tag{5}$$

$$\text{DEC}; P_{\text{unit}} = \frac{i + \sum C}{2} \quad (6)$$

Table 3 summarizes the results of applying the formulas and datas of Table 2.

Table 3: Results

		WHOLESALE PRICING CONTRACT	
		Centralized setting	Decentralized setting
$\sum \Pi$	EUR	469,4	352,1
P_{market}	EUR	127,5	143,8
P_{unit}	100 pcs	71,3	127,5
Q	100 pcs	14,4	7,2

Source: Own construction

As it is shown, the centralized setting gives a higher performance than the decentralized setting. The total profit of the whole green supply chain is much higher, so the individual profit is also can be higher. This means the maximum satisfactory of the members. Market and unit prices are also better, less than in the decentralized setting. Because of this prices, members, costumers are interested in to buy larger quantity of product.

5. Summary and future directions of research

The green supply chains are getting more important, because of the environmental protection. Companies undertake the operational changes to become green and also to reduce the environmental impact. However, the coordination is a real problem in the case of green supply chain, too. Green supply chains also have many partners, hence it needs to manage the cooperation. One of the most important goal of the supply chain management is the coordination. If the chain members act according in their own interest, the philosophy of the supply chain management is not acquired very well, and the coordination can be poor. Therefore these companies need to change their mind, and striving after the operation of centralized setting to realize the mutual benefits of the great cooperation. Researchers provide the contracts to coordinate these chains. According to the analysis the best way to coordinate the green supply chain is to use the wholesale pricing contracts in centralized setting. It could be more efficient than a decenralized setting, where the members act in their own interest.

The difference between the classic and green supply chain is the eco-consciousness. It indicates many changes in the company, and it causes the increasing costs. So these costs can be influence the contracts, they can change the factors, and the weights. For example a green product can be more expensive, and it can influences the market price in the case of both contract types. The prices also can determined by the quality of the green product and the degree of environmental impact. Therefore further research could contain weights to clarify the aspects of environmental protection, because green companies prioritise the reducing the environmental impact of their products or services even at the increasing costs.

References

Beamon, B. M. (2005): Environmental and Sustainability Ethics in Supply Chain Management. *Science and Engineering Ethics* 11, pp. 221-234.

- Carter, C. R., Rogers, D. S. (2008): A framework of sustainable supply chain management: Moving toward new theory. *Int. J. Phys. Distrib. Logist. Manag.* 38, pp. 360-387.
- Coltman T., Bru, K., Perm-Ajcharyawong N., Devinney, T. M., Benito, G. R. (2009): Supply Chain Contract Evolution, *GR, European Management Journal*, University of Wollongong, Australia, online:https://ro.uow.edu.au/cgi/viewcontent.cgi?referer=http://scholar.google.hu/&https_redir=1&article=1740&context=infopapers (downloaded: 2019. 09. 26.)
- Faludi, T., Molnár, V. (2017): Az ellátásilánc-koordinációhoz kapcsolódó stratégiai döntéstámogatási területek, *Műszaki Tudomány az Észak-Kelet Magyarország Régióban 2017, konferencia előadásai* (ed.: Bodzás, S.), pp. 98-104.
- Giannoccaro, I. (2018): Centralized vs. decentralized supply chains: The importance of decision maker's cognitive ability and resistance to change, *Industrial Marketing Management*, Volume 73, pp. 59-69.
- Miskolcziné, G. M. (2017): Zöld ellátási lánc menedzsment átfogó vizsgálata a hazai közúti gépjárműiparban, *Doktori (PhD) értekezés*, Szent István Egyetem, Gödöllő
- Sluis, S., Giovanni, P. (2016): The selection of contracts in supply chain coordination: An empirical analysis, *Journal of Operations Management* 41, pp. 1-11.
- Zsidisin, G. A., Siferd, S. P. (2001): Environmental purchasing: A framework for theory development. *European Journal of Purchasing & Supply Management* 2001/7, pp. 61-73.

NEW PUBLIC MANAGEMENT IN FORCE INSTITUTIONS. ELEMENTS OF STRATEGIC APPROACH

Casian Catrina, Ioan Petrisor

Department of Management, Faculty of Economics and Business Administration, West University of Timisoara, Timisoara, Romania

casian.catrina@yahoo.com

ioan.petrisor@e-uvt.ro

Abstract: *The manager adapted to the smart technologies in the digital age goes beyond the obsolete mentalities by using critical thinking about strategic intelligence, combining factual rigor, on the one hand, and artistic creativity, on the other. Any deficiencies found in the innate or acquired abilities can be balanced by new models, algorithms and software programs that allow the modernization of the managerial process. Thus, the manager positioned at the strategic level remarkably realizes the operationalization of the concepts of the field represented by public order and national security by using specific tools, such as technological innovation, performance management, orientation on obtaining results, strategic coordination of the activity and institutions. I will try to analyse the studies on power, leadership and paradigms of public management in a post-sovereign world. My argument is that leaders of contemporary institutions of force can better understand their roles, opportunities, and responsibilities, recognizing their organizations as complex systems of adaptation, and adopting a post-governmental analysis and practice of power. The research was carried out using the theoretical research method.*

Keywords: digital age; smart technologies; force institutions; power; public strategic management.

JEL classification: H19; H56.

1. Introduction

The public institutions of defence, public order and national security have experienced distinct stages of institutional evolution. An unequivocal definition of power in the context of the reinvention of new public management cannot be established, but the concept of power supports different representations that merit due attention at the time of its research to define, understand and promote new approaches to public strategic management at the level force institutions.

2. Digital Public Management

Referring to Benjamin Dabler, Andreas Kruck and Bernhard Zangl's (2018) *theory of power change*, it must be borne in mind that the success or failure of efforts to make institutions adapt to the change in *power distribution* depends on the relative bargaining capacity between already established exponents of power and the emerging ones. Smart power has become a problem of *national security*, determined on the one hand by continuous *structural changes at the international level*, in the long term, and by *the current administrative deficiencies* (Wilson III, 2008). Since the 1980s, *information technologies* have enhanced the use of *microcomputers* in public

institutions and have been able to *optimize internal processes, reduce administrative burdens and digitize public services*. Thus, *strategic interoperability* was achieved at the *interinstitutional level*, while allowing the *provision of information and public services online* (Criado and Gil-Garcia, 2019). At the same time, *"the reform movement of the new public management introduced disaggregation, empowerment, institutionalization and commercialization"* (Cohen, 2016: 24).

Key factors of public value, such as *citizen trust, electronic service design, government readiness and collaborative process between government and service users*, advance discussions for the future design of digital services based on *big data* and *smart technologies*. Therefore, the impact assessment of *emerging technologies* such as *social media, artificial intelligence* or *internet of things* should be addressed to the key decision-makers identified by *public value* (Criado and Gil-Garcia, 2019). Thus, the concept of *unified government* or *whole-of-government* as described by Tatiana-Camelia Dogaru (2016) may be discussed, taking into account *the disruptive capabilities of smart technologies and strategies in the public sector*, characterized by: *the inclusion of agents external decision-making processes in public institutions, collaboration dynamics that require the launch of certain projects in distributed working groups (holacracy), radical transparency of institutional processes, reducing the costs of access to information, continuous evaluation related to the traceability of actions in these new spaces digital cooperation* (Criado and Gil-Garcia, 2019).

3. Reinventing the new Public Management

The power transition theory (Dabler, 2018) shows that attempts to *institutionalize power change* are doomed to failure, in contrast to the relative attempts perpetuated by *governments incapable of deep and sustainable institutional adaptation*. Thus, the responsibility of the *allocated budgetary expenses, the transparency in the allocation of resources and the evaluation of the performance* as a means of achieving greater efficiency were the central pillars of the institutional reform within *the NPM* (Mann, 2017) The criticism that can be attributed to *the NPM paradigm* could be represented by its *limited focus, lack of coordination and strategic cooperation* (Dogaru, 2016). Thus, solutions are proposed for the *de-regulation and simplification of procedures (D-BSP)* regarding *the strategic approach of the police activity* (Dogaru, 2016). Given the concepts of *sustainability impact assessment* and *regulatory impact assessment* that have been introduced to ensure that managerial decisions do not increase *administrative tasks, procedures and costs* as described by Jean-Sebastien Marchand and Maude Brunet (2017), a tool has emerged from *NPM initiatives*, namely *integrated impact assessment*, as *sectoral evaluations tend to overlap, becoming redundant, which causes lack of synchronization and coordination, integration and concentration* (Marchand and Brunet, 2017).

Mandatory power is born from a *relational and informal perspective* and refers to the direct interaction between the actors and their ability to control the actions and circumstances of the other actors. Therefore, when *power* is viewed as a *productive power*, this social process of mutual constitution is a series of diffuse social processes, networks of social forces that are shaped by the creation of *systems of meaning, signification and direction*. It is the central point of *the post-structuralist approaches* (Casier, 2017). However, the notion of *smart governance* denotes that there could be a *new and transformative perspective of public management* through the tool designed in *the latest technologies and smart strategies* for transforming mediation processes between public institutions and citizens. This could lead to a new phase that will be based on the *co-production of public services, the provision of public value and the*

different dimensions of public management. Thus, the technological innovation represented by the digital governmental platforms creates public value and facilitates the transparency and the participatory mechanisms for transforming the public decision and involving the citizens in public affairs. Also, smart technologies of the near future such as blockchain, internet of things, quantum computing, artificial intelligence are expected to grow in importance and real use in the public sector in the coming decades (Criado and Gil-Garcia, 2019).

4. Comparative Analysis Between NPM and Post-NPM Reforms

If "NPM reforms focused on improving efficiency, horizontal specialization in the public apparatus, contracting, marketing and privatization, adopting private methods, performance management and profit-oriented" (Cohen, 2016: 20), the proposed paradigmatic change from the post-NPM approach came by strengthening the central political and administrative level through structural reintegration and increasing capacity at the top (Cohen, 2016). At the same time, in NPM's view, the performance management tools used for the police activity proved to be simplistic, artificial, narrow and did not represent the strategic objectives of the police. Thus, to the extent that the NPM is designed as an incentive-based accountability system, the measures taken have contributed to a narrow and reductionist set of indicators, while the results-oriented but harm-minimizing measures are neglected (Mann, 2017).

The paradigmatic change represented by a new reform movement that emphasizes networks, partnerships, increased integration, coordination and centralization does not replace the NPM, but rather revises or completes it (Dogaru, 2016). The post-NPM approach has been influenced by changes in government and external pressures in politics and the global economy. Thus, post-NPM reforms are culturally oriented governance efforts, focused on cultivating a strong and unified sense of values, teambuilding, involvement of participating institutions, trust, value-based management, collaboration, improving the training and self-development of civil servants (Dogaru, 2016).

5. Trends of Reinventing new Public Management in Case of Force Institutions

When the power involves the activity and influence of the structures of defence, public order and national security, they consider the circumscription within the institutional framework of these formations. Therefore, institutional power, according to various institutional arrangements, as described by Alex Nicholls and Benjamin Huybrechts (2014), implies, for example, different capacities for setting distributed goals or rewards. This is a prominent idea in neoliberal institutionalism. Also, the concept of interdependence reflects institutional power, as the asymmetric interdependence creates unequal control over the results. Thus, strategic managers who successfully combine the appropriate reaction to crime and conduct bureaucratic activity in optimized parameters, focus their management on accountability systems based on incentives related to meeting performance criteria (Mann, 2017). However, regarding the daily activity of the police, it can be observed that due to unrealistic expectations of institutional performance, there is a disconnection, the accountability measures being artificial and simplistic, but producing effects in the police as "representations" of productivity, thus adding bureaucratic and political challenges (Mann, 2017). At the same time, the key performance indicators specific to the police activity (Mann, 2017) and the failure of neoliberalism that the police must justify their value in exchange for financial resources, forced the police to look for easy ways to achieve the parameters, thus focusing on offenses with a low degree of danger and social impact (Mann, 2017).

As for the institutions of defence, public order and national security, the asymmetrical power relations that influence the activity and performance of the employees are discussed. *Underground interests* fuelled by access to information specific to the institution's field of competence allow managers to *manipulate, practicing a leadership style based on abuse of authority*. Even if the law is not violated, although there are exceptions, how a manager confronts certain situations exceeds the *institutional interests*, proving the *pre-existence of a hybrid logic* (Nicholls and Huybrechts, 2014). A solution to this problem, as suggested by Monique Mann (2017), could be the *creation and development of police values as responsibility, reforming notions that contribute to the development of specific practices, the performance and impact of the police on third parties, using process evaluation, rather than results and achieving the desired crime prevention level*. Globalization and adaptation to the new social conditions imposed by information technologies in the digital era governance have led to the development of the concept of *intelligence-led policing*, based on the return on investments related to *performance measurement and threatening to reduce funding* (Mann, 2017). Thus, the term *smart police* circumscribed to the government in the *digital age* implies the collection of a *large number of data for police information*, so the use of the concept of *big data* and the development of *new systems and technologies for processing this data* (Mann, 2017). At the same time, the concept of *linked open government data* addresses the potential for creating *public value* by responding to the challenges of *control, data quality, data usage and data visibility* (Criado and Gil-Garcia, 2019).

6. Conclusion

The ultra-fast development of *information technology* determines the need to adapt *public strategic management* to optimize *public services*. The orientation towards serving the citizen becomes a priority, and the liberalization of the police profession is both an opportunity and a pressing need, as Monique Mann (2017) points out. The economic-political-social context has thus favoured the emergence of new industries by carrying out the transfer from the information and telecommunications technologies of the last century, to the ultra-technological present, with the possibility of monopolizing, in an overwhelming proportion, the social environment soon.

Looking at the perspective of *total relative digitalization*, it can be stated that, as the police will be the beneficiary of a *system of prevention and indication of possible crimes and offenders*, in the same measure, the *internet of things* will make it possible to monitor the person's *location, activity, opinions, plans*. Thus, the breach will be created to rethink the *smart technologies* that will *preserve the intimate character of private life* (Susskind, 2019).

References

Casier, T. (2017) 'The different faces of power in European Union – Russia relations', [online], Available: sagepub.co.uk/journalsPermissions.nav DOI: 10.1177/0010836717729179 journals.sagepub.com/home/cac. [20 Mar 2019].

Cohen, N. (2016) 'Forgoing new public management and adopting post-new public management principles: the on-going civil service reform in Israel', [online], Available: Wiley Online Library (wileyonlinelibrary.com) DOI: 10.1002/pad.1751 [04 Oct 2019].

Criado, I.J. and Gil-Garcia, J. R. (2019) "Creating public value through smart technologies and strategies from digital services to artificial intelligence and beyond", *International Journal of Public Sector Management*, Vol. 32 No. 5, 2019 Emerald Publishing Limited 0951-3558 DOI 10.1108/IJPSM-07-2019-0178.

Dabler, B., Kruck A., Zangl B. (2018) 'Interactions between hard and soft power', [online], *European Journal of International Relations*, 1 –25 © The Author(s) 2018 Reprints and permissions: sagepub.co.uk/journalsPermissions.nav DOI: 10.1177/1354066118768871 journals.sagepub.com/home/ejt [20 Mar 2019].

Dogaru, T.C. (2016) "The effect of public administration reforms under the post-new public management paradigm", *16th International Scientific Conference on Economic and Social Development*, The Legal Challenges of Modern World – Split, 1-2 September 2016.

Mann, M. (2017) "New public management and the 'business' of policing organised crime in Australia", *Criminology & Criminal Justice* 2017, Vol. 17(4) 382 –400 © The Author(s) 2016 Reprints and permissions: sagepub.co.uk/journalsPermissions.nav DOI: 10.1177/1748895816671384 journals.sagepub.com/home/crj.

Marchand, J.S., Brunet M. (2017) 'The emergence of post-NPM initiatives: Integrated Impact Assessment as a hybrid decision-making tool', [online], sagepub.co.uk/journalsPermissions.nav DOI: 10.1177/0020852317694947 journals.sagepub.com/home/ras [20 Mar 2019].

Nicholls, A. and Huybrechts B (2014) "Sustaining inter-organizational relationships across institutional logics and power asymmetries: the case of fair trade", *J Bus Ethics* (2016) 135:699–714 DOI 10.1007/s10551-014-2495-y.

Susskind, J. (2019) *Politica viitorului. Tehnologia digitală și societatea* – editura Corint, București 2019.

Wilson, Ernest J. III (2008) 'Hard power, soft power, smart power - The Annals of the American Academy of Political and Social Science', [online], <https://www.jstor.org/stable/25097997> [20 Mar 2019].

DIGITALIZATION IS AROUND THE CORNER – CONTROLLERS IN THE FOURTH INDUSTRIAL REVOLUTION

Petronella Doszpoly

Institute of Finance and Accounting, Faculty of Economics, University of Miskolc, Miskolc, Hungary

doszpolypetronella95@gmail.com

Abstract: *Digitalization and automation has been taking effect on labour market for a long time in several industries. In the literature the way innovation shakes an industry or social subsystem shows up as ‘digital transformation’, or ‘disruptive technology’. Digital transformation impacts the whole company, especially finance and accounting. These function areas, on one hand, are following the changes brought about by digital transformation, while supporting decision-making processes, on the other hand, new opportunities are also opening up to make these areas more effective. In my view, these environmental changes demand an in-depth examination of the development of competence expectations and responsibilities of employees working in these function areas. The aim of this paper is to present the changes that have already been demonstrated in the organizational background and controlling practices of companies and what is predicted by the literature by reviewing the current situation of labour market. Besides, the second aim is to determine how the revealed processes and tendencies affect the individual level, and how the expectations of the future controller change.*

Keywords: digitalization; controlling; automation

JEL classification: M49; O33

1. The labour market aspect of digital transformation

We are on the cusp of the Fourth Industrial Revolution, which is expected to have the same effects experienced in the previous ones: new technologies improve productivity, bring new economic recovery and consumption growth, thus, we do not expect much new in its social consequences either. The difference is that the “steam-engines” of present industrial revolution are cyber-physical systems and digitalization, with its all-pervasive effects.

Technological changes accelerate job destruction and job creation occur simultaneously: by “creative destruction”, technology replaces human labour, which thereby needs to be concentrated in other segments. On the other hand, the labour force released will be utilized by other sectors, where high productivity growth increases the expected profits and provides incentives to open new jobs. This outcome has been termed the “capitalization effect” of growth on employment. The results for the whole economy will depend on which effect eventually dominates: whether the number of jobs created will compensate for job losses, and whether this balance will be maintained in the long term. (Frey – Osborne, 2013). An occupation can be safe from substitution if it requires perception and movement; creative intelligence (originality, art); and social intelligence (sensitivity, negotiation, cooperative skills), where mechanization is hampered by technical barriers, termed “*engineering bottlenecks*”. Due to the rapid advancement of technology, machines however can not only replace human resources in performing routine tasks, as they have now been able to recognize

certain contexts, and thereby, to learn without human instruction. As a result, the use of machines is becoming more widespread from customer service to even medical diagnosis.

2. Digital transformation of controlling

With the spread of digitalization, fears about the ceasing of controlling profession intensified in recent years, however, there are more factors which are in favour of making controllers' work more important than ever. Despite some tasks will not be performed by controllers in the future, and some will have the potential to be automated, they will also perform new, different tasks that require them to try new digital methods.

Isensee (2014) divides controlling processes into three basic groups: *governance*; *design and production* (generating reports); and *business partnering*. According to the author, two of them – the implementation of governance and business partnering – will determine the role of future controllers, as robotic process automation (RPA) solutions are extremely promising in design and production. Tasks, such as combining data from different data sources; performing inspections and validations; creating standard reports using predefined structures; recognizing deviations and making simple interpretations are suitable for automating with RPA. As a result, the finance function is becoming more of a strategic “business partner” within their organizations. Besides classic (supervisory, analytical) roles, the on-going transformation requires controllers to be an ‘advisor’ of the management and an active participant in the decision-making process. (Waelter et al, 2018).

The key question nowadays in data analysis is how we can profitably utilize the vast amount of data available. Even at operational levels, data-driven decisions are made, and there is a greater emphasis on predictive, forward-looking analysis of data than its descriptive nature, which fundamentally determines data analysis processes (ICA, 2015). “Business analytics” refers to the technologies and practices of the study of data of past business performance to gain insight and drive business planning. According to Horváth (2016), the future analytical processes can only be accomplished through the collaboration of an IT expert, a data scientist and a controller. Besides, due to the enormous amount of data available, interpreting a complex phenomenon and transforming data into a clear and concise format is becoming a challenging task. The solution can be provided by self-service business intelligence (SSBI) applications. SSBI is an approach that empowers business users to access and analyse data without business intelligence (BI), statistical or data mining techniques. This allows end-users to make decisions based on their own analysis, while at the same time, shortening the controllers' work by not spending most of their time creating databases of reports, but instead focusing on other tasks such as exploring the reasons of deviations that brings greater added value to the entire company.

3. Changes in controller responsibilities and competence expectations

The role of controllers will necessarily change as a result of digital solutions. According to Blumné and Zéman (2014), the reduction and restructuring of tasks is to be expected, as illustrated in the following figure.

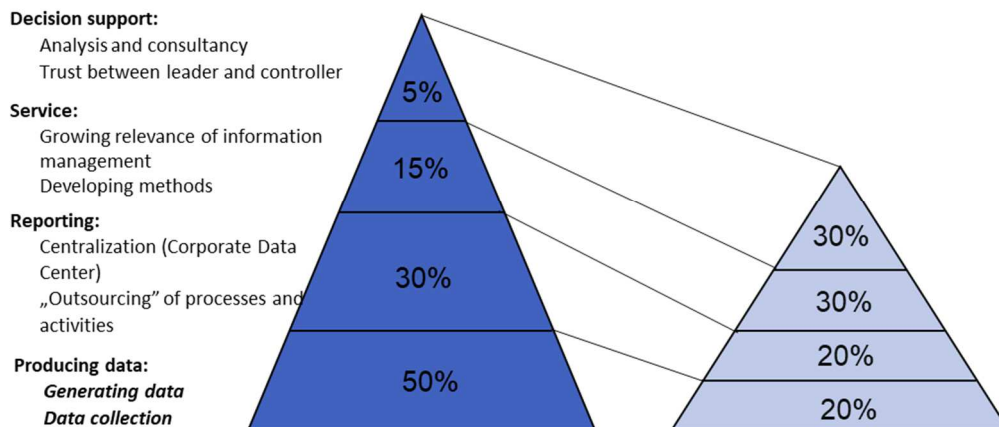


Figure 1: The changing role of controllers
Source: Blumné – Zéman (2014)

Controllers increasingly participate in more strategically oriented issues, provide data to operational areas, and assist users with tools that enable self-service access to informational sources. Analytical skills are becoming more valuable, as beyond the technical production of reports, managers need to be supported by interpretation and qualitative information. Thus, besides controlling expertise, customer orientation and consultancy competence also comes to the fore. IMA (Institute of Management Accountants) research emphasises the expanding interaction with nonfinancial functions – HR, sales and production areas. As a result of enhanced involvement in organizational support, there is an increasing need for so-called "T-shaped" abilities. The vertical bar of the T refers to expert knowledge and experience in a particular area, whereas the horizontal bar refers to an ability to collaborate with experts in other disciplines and a willingness to use the knowledge gained from this collaboration (i.e. as a project controller in a project). These include communication and interactive capabilities, such as managing relationships between the various actors in the process. Working ability has been identified by IFUA Horváth & Partners' Hungarian competence research as the second most important competence of controllers, which the authors explain with the growing informational needs within the organization. The volume for information requests of both financial and nonfinancial data is increasing, thus, without improvements in technology, in order to attend to the new job requirements, controllers would need to support finance activities by working longer hours.

Business knowledge, contrary to the expectations, does not appear among the key competencies, which is, in Hungary, primarily identified with the knowledge of product portfolio or corporate strategy, and less extends to industry knowledge, competitors or the corporate value chain. According to the author, this could also set the path of future development for Hungarian controllers. (Solti, 2013)

5. Conclusion

According to Losbichler, leader of International Group of Controlling (IGC): *"Man grows with tasks."* In his view, the core of controlling has slightly changed, as business

success still requires a cycle of purpose, planning and implementation. At the same time, due to the new competence requirements arising from environmental changes, controllers require special training, which must be inevitably met by the corporate sector. Organizations will need to be aware of the changing role of controllers, the skill set they must possess, and how to fill the gap when that skill set is not present.

6. Acknowledgements

I would like to thank Dr. Zoltán Musinszki for his expert advice and professional guidance.

References

- Blumné Bán, E. – Zéman, Z. (2014) Controlling a vezetés szolgálatában. Történeti fejlődés, perspektívák. *Taylor: gazdálkodás- és szervezéstudományi folyóirat*, (6) 1-2. pp. 439-447.
- Frey, C. B. – Osborne, M.A. (2013) The future of employment: how susceptible are jobs to computerisation? *University of Oxford*.
- ICA (2015): The development phases of data analysis, *International Controller Association*.
- IMA (2014): Evolving Role of the Controller. *Institute of Management Accountants. Montvale, NJ 07645*
- Isensee, J. – Ostrowicz, S. - Reuschenbach, D. (2019) RPA im Controlling. *Horváth & Partners, Hamburg*.
- Solti, G (2013) Mitől lesz sikeres egy controller? *What makes a controller successful? Controlling Portal, 2013*.
- Waelter, A. – Kaplan, B. – Gibson, A. B. – Krumwiede, K. (2018) Stepping Outside the Box: Elevating the Role of the Controller. *Deloitte Development LLC*

DETECTING BUSINESS CORRUPTION STRATEGIC BEHAVIOURS USING NETWORK ANALYSIS

Dana Nedea, Ioan Petrișor

West University of Timișoara (Management Department, Faculty of Economics and Business Administration), Timișoara, Romania

dana.nedea94@e-uvt.ro

ioan.petrisor@e-uvt.ro

Abstract: *Romania, among many other countries, is currently facing corruption cases, both from public and business sector. These cases are directly impacting the business environment. Thus, the detection and diagnosis of these corruption cases becomes highly important for businesses in the process of strategic decisions. During some intense public events, such as elections, the level of corruption tends to be more pronounced. These public events allow a detailed analysis, in most cases revealing new corruption and business corruption cases. The methodology we use is based on networks analysis. A large quantity of event data was extracted from the Global Database of Events, Language, and Tone (GDELT) regarding Romania, during the month of May 2019. The data extracted show business corruption networks. The distinctiveness of this research consists of involving the theory of network analysis in order to show specific corruption behaviours during EU Parliament Elections Campaign of 2019, as well as in inspiring strategic anticorruption directions. The results reveal the national business corruption behaviours, with the limits being given by the usage of big-data and the magnitude of corruption behaviours. Future research will intend to use a larger sample of data for a dynamic detection.*

Keywords: corruption, business corruption, behaviour, network analysis, GDELT

JEL classification: D73, K42

1. Introduction and Literature Review

This paper uses network analysis community detection model in order to detect business corruption strategic behaviours at the Romanian level, during EU Parliament Elections Campaign of 2019. The paper approaches the subject through a literature review, introducing the main elements of corruption definition and network science analysis, followed by a methodology and data description, which leads to data analysis and discussion. The subject discussed in this paper is an extended analysis of the Romanian business corruption behaviours, conducted in the paper „Projecting a Strategic Diagnosis System of Corruption Based on Networks Analysis” (Petrișor & Nedea, 2019), in which we developed a Strategic Diagnosis Based on Networks (SDBN) system, and applied it at a Global, European, EU and Romanian level.

The hypothesis of the paper is based on the previous literature results showing that, during public elections, corruption and the perception of it tend to become more accentuate (Rose-Ackerman, 2006). With this, we determine the business corruption strategic behaviours at Romanian level. The results show the strategic business corruption behaviours of business organizations during the analysed period.

Among the many difficulties on studying the corruption, one, which is highly discussed, is the actual definition of corruption. While, it might seem as just a semantic issue, the

way in which corruption is defined determines the way in which it is measured and modelled (Jain, 2001).

There is an agreement among studies in defining corruption as being the use of public power for a personal gain, considering the fact that, corruption occurs at the overlying of public power and private wealth (Rose-Ackerman, 2006).

The most common transaction is the one in which a private individual or a business organization pays a public official in return for a benefit (Rose-Ackerman, 2006). This type of transaction has both demand and supply dimensions. As Dixit (2016) discusses, the focus is mainly on the demand side, as most of the studies tend to approach the government corruption, while the supply side, as being the private individual or business organization should also be studied.

While the common press exposes on a continuous rhythm the bribery of government and public or private actors, the public's interest rarely extends beyond the details of specific scandals. However, as the episodes accumulate, it becomes clear that more is at stake than is implied by the set of disjointed stories (Rose – Ackerman, 1978). This moves the study centre of corruption to the mass media and press as being a powerful tool for detecting and diagnosing the corruption behaviours, at certain time intervals.

Network analysis uses graph theory in order to construct specific networks connected by nodes and edges (Barabási and Bonabeau, 2003). One important advantage of the network analysis is given by the fact that the graph properties are universal, and they have the power to describe almost any entity (Barabási and Bonabeau, 2003).

2. Methodology and Data

In this paper we use Global Knowledge Graph (GKG) Network Visualizer included in the Global Data on Events, Location, and Tone (GDELT) project, supported by Google, which encompasses hundreds of millions of event records, which are extracted from broadcast, print, and online news sources from all over the world (Leetaru and Schrod, 2013), in real time, being updated at every 15 minutes.

In our research, the month of May 2019 is the reference time interval. This month concludes with the European Parliament Elections in the EU, being considered by our research a month in which corruption could appear more frequently in mass media.

GKG Network Visualizer is scanned for the research parameters of Romanian business corruption, and a list of all people, organizations and institutions, and locations (countries) is compiled as the nodes of the network and the number of times that any two searches (corruption and business) occur together. The resulted network diagram measures the degree to which the global news refers to two terms together over the time interval. In our network, each node represents an actor involved in business corruption related discussions over global news.

Downloaded data was imported into Gephi Software, which is an open source social network analysis and visualization tool. For each parameter and scale, we calculated the modularity coefficient in order to extract the community structure (Blondel et al., 2008) and clustering coefficients for measuring the degree to which nodes in a graph tend to cluster together (Watts and Strogatz, 1998). We also calculated the average degree in order to determine the degree to which some of the nodes are more influential than others, and the average path length in order to determine the average shortest path in the network (Albert and Barabási, 2002).

4. Results and Discussion

Figure 1 presents the organizations and institutions network at the Romanian business corruption scale. The results indicate corruption strategic behaviours concentrated in a few highly connected communities in which the corruption actors tend to gather together, given by the relatively high clustering coefficient (Table 2).

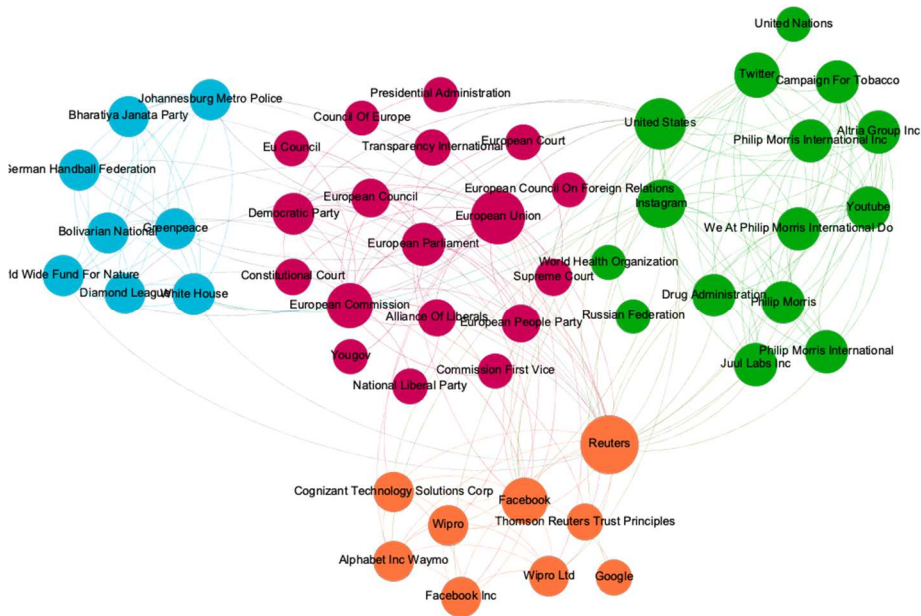


Figure 1: Romania business corruption: organizations and institutions network
Source: The authors

The network measurements, as presented in Table 1, show the differences between all the analysed networks in regard with Romanian business corruption. The high values on clustering coefficient are showing a strong actors' power of clustering together inside communities. Average degree measurements indicate that the countries and names networks have a higher number of influential actors than the organizations and institutions network. The highest average shortest path on organizations and institutions network indicates that actors tend to connect with other actors by using, on average, 2 intermediary actors.

Table 1: Network measurements

Scale	Modularity/ Communities	Clustering Coefficient	Average Degree	Average shortest path
Countries network	0.201 / 2	0.804	36.881	1.659
Organizations and institutions network	0.423 / 4	0.823	8.76	2.097
Names network	0.554 / 7	0.884	10.611	1.874

Source: The authors

5. Conclusions and Future Work

The analysis conducted in this article detects the specific business corruption strategic behaviours present at the Romanian level during the EU Parliament Elections Campaign of 2019. The results reveal corruption strategies based on concentrated networks, with a few communities, but with strongly connected actors between communities. These results conclude with the detection of specific business corruption behaviours followed by actors involved at the Romanian level through the perception of mass media and online news. Future research should include a larger sample of data regarding the Romanian level of business corruption, with the time interval being extended to other electoral campaigns for a proper comparison, but also to periods of non-electoral campaigns in order to properly test the different business corruption behaviours.

References

- Albert, R. and Barabási, A.-L. (2002). Statistical mechanics of complex networks. *Reviews of Modern Physics*, 74, 47–97.
- Barabási, A.-L. and Bonabeau, E., (2003). Scale-Free Networks. *Scientific American* Vol. 288, pp. 60–69.
- Blondel, V.D., Guillaume, J.-L., Lambiotte, R. and Lefebvre, E., (2008). Fast unfolding of communities in large networks. *Journal of Statistical Mechanics: Theory and Experiment*, Vol. 2008, October.
- Dixit, A.K., (2016). Corruption: Supply-Side and Demand-Side Solutions, In: Dev, S.M., Babu, P.G. (Eds.), *Development in India: Micro and Macro Perspectives*, India Studies in Business and Economics. Springer India, New Delhi, pp. 57–68.
- Jain, A.K., (2001). Corruption: A Review. *Journal of Economic Surveys*, Vol. 15, pp. 71–121.
- Leetaru, K. and Schrodtt, P.A., (2013). GDELT: Global Data on Events, Location and Tone, 1979-2012, *ISA Annual Convention* Vol. 2, No. 4.
- Petrişor, I. and Nedea, D. (2019). Projecting a Strategic Diagnosis System of Corruption Based on Networks Analysis, *paper presented to the International Symposium in Management, 15th edition*, Timișoara, 25-26 October.
- Rose-Ackerman, S. (Ed.), 2006. *International handbook on the economics of corruption*, Elgar original reference. Edward Elgar, Cheltenham, UK; Northampton.
- Rose-Ackerman, S., (1978). *Corruption: a study in political economy*. Academic Press, New York.
- Watts, D. J. and Strogatz, S.H., 1998. Collective dynamics of ‘small-world’ networks. *Nature* 393, 440.
- <https://www.gdeltproject.org>
- <https://gephi.org>

THE FOCUS OF TOTAL QUALITY MANAGEMENT ON PRODUCTION ORIENTED ASPECTS RATHER THAN HUMAN RESOURCE MANAGEMENT ELEMENTS

Salma Choulli

University of Miskolc, Enterprise Theory and Practice Doctoral School, Miskolc, Hungary

salma.choulli@gmail.com

Abstract: *One of the most used contributions for a better performance and effectiveness is the implementation of the total quality management approach. Since it was recognized as one of the most important achievements of the Japanese companies, the main focus was put on reaching customer requirements and satisfaction and increasing competitive advantage. This has led to a lack of staff involvement which can have dire consequences on the future and sustainability of the TQM model. Therefore, it is necessary to acknowledge the importance of human resource management processes and the seriousness of the role it plays in the overall challenge-driven business.*

Keywords: Total quality management; focus; implementation; human resource management; involvement; staff.

JEL classification: M12; M19.

1. Introduction

In an ever more competitive environment, companies are looking for all the possible levers of performance. The quality approach is one of these levers. Indeed, it aims to improve a customer's satisfaction, but also to optimize the processes and the internal workings of the company.

Given the complexity of the regulatory, conventional and contractual contexts of human resource management, the benefits of implementing a quality approach are obvious: it reduces the risk of errors, allows to steer the company's actions with more accuracy, and therefore offers better anticipation for its future.

The quality approach in human resources thus allows the establishment of processes, the choice of indicators and the construction of an evaluation system. The employee, in this case, finds himself playing the role of the client, meeting his needs, allowing him to plan his career, and managing his skills while following his professional involvement.

2. The significance of the TQM implementation

The visionary leadership, customer focus, continuous improvement and teamwork are the four founding principles of TQM. These are based on management of individuals (Evans and Lindsay, 1996). Hodgetts identifies 10 the main values of the TQM, the majority of which corresponds to the founding principles of the ones created in the 1950s and developed from the 1970s. (Hodgetts et al., 1994).

2.1. The reasons for success of an organization:

The 10 main values of tqm by Evans and Lidsay (1996) are as follows:

- Customer focus;

- Leadership (commitment of senior management);
- Employee's participation at all levels;
- A system of recognition of the efforts made by the employees;
- Reduction of cycling time (or process);
- A preventive logic;
- The factual approach to decision making;
- The long-term vision;
- The development of partnerships;
- A public responsibility.

The benefits from the implementation of TQM have been the subject of several studies (Hansen,2001; Hansson and Eriksson, 2003). So, many writers stipulate that setting up TQM practices lead to better performance (Nair, 2005).

In addition, this work leads to the conclusion that the long-term success of an organization and the construction of its competitive advantage are based on the implementation of management by total quality. Chong states that TQM provides a fundamental way to conduct business, making the business more competitive and more efficient (Chong,1998). Other research shows that the successful implementation of the TQM can also lead to improved products and services at lower costs, with more satisfied clients and more involved employees (Agus and Abdullah, 2000).

2.3. An explanatory model of TQM

There are three key factors identified as the 'legs' of the TQM model by Goetsch and Davis (2016). These are measures, people and processes (Figure 1).

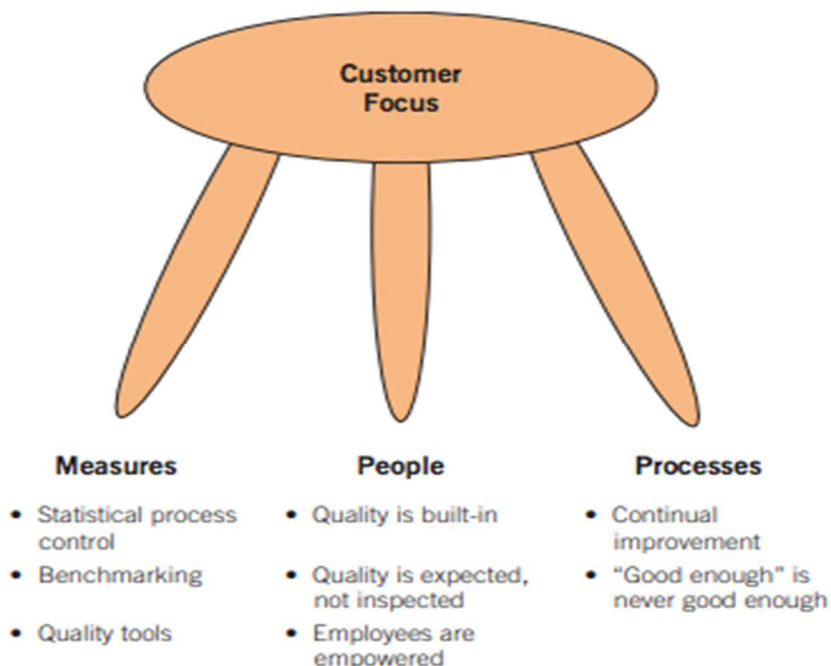


Figure 1: Three-Legged Stool of Total Quality.
Source: Goetsch and Davis (2016)

A more casual way to understand the notion of total quality is the analogy of a three-legged stool, as shown in figure above: The seat of the stool is customer-oriented. This means with total quality that the customer is in the "seat" as the principal arbiter of what is acceptable in terms of quality. Each of the three legs is a broad element of the philosophy of total quality (ie, measures, personnel and processes). The foot "measure" of the stool indicates that the quality can and must be measured. The "people" leg of the stool stresses that quality is not something controlled by a product or service. On the contrary, it must be built by people who are entitled to do their work the right way. The "Treats" the leg of the stool indicates that the procedures must be improved, continually and forever. What is considered excellent today may just be mediocre tomorrow. Consequently, "good enough" is never good enough. (Goetsch; Davis, 2016)

3. The importance of human resource management implication

The staff is at the heart of the organization. They have a preponderant place both for the implementation of processes and for improvement.

It is, therefore, necessary for a company that the personnel is aware of their importance in the implementation of the Quality Management System: this is called the involvement of staff.

In addition, they must be competent, empowered and involved at all levels of the organization. They are essential to creating value (ISO 9001:2015).

To manage an organization effectively, it is important to involve all staff. Each individual must be taken into account by management or intermediate management. Recognition, empowerment and skills enhancement facilitates staff involvement in achieving the organization's quality objectives for operational operation (production) and support functions.

The involvement of the staff is a principle of quality. In this sense, it is important to get there. But it is not easy to get there.

During the implementation of a QMS (Quality management system), it is necessary to obtain the total inclusion of the staff. Generally, there is a first negative feeling and a mistrust when it comes to the employee in thinking that the company only cares about production and results rather than its workers' well-being. Exceeding this brake is, therefore, a first step in the involvement of staff.

Then, it is required to involve the staff in the implementation of the quality management system. An effective solution is to integrate a majority of people into process working groups (This solution is very effective in small to medium businesses and organizations of 30 to 100 people). Process construction as part of the process approach is an excellent lever for gaining buy-in and involvement, for example for the description of activities and the creation of Process / Mapping process sheets.

4. Conclusion

The purpose of this starting paper is to study the following questions:

- Why is HRM is not one of the focal points of TQM?
- Does TQM require a particular approach to HR strategy for successful implementation?
- What are the challenges and support that the HRM goes through when performing quality practices?

One of the seven principals of quality management is staff involvement but there's hardly any conversation or literature regarding it.

In principal, the employees of a company would subconsciously care about the quality of the work to be achieved and express the desired advancement and improvement with the help of training and a support system. This shows that human resource management is has a powerful role in quality management and improvement.

In conflict with this, quality management and TQM, in particular, focuses on more of the technical side of the application and implementation rather than what we could call “the softer” process of winning employee support for, and commitment to, the TQM philosophy of continuous improvement (Wilkinson et al., 1991; 1992). Evidence from the growing literature on TQM failure emphasizes the neglect of the “soft” side of quality management wherein the HR and organizational behavior aspects of quality programs are not given their deserved emphasis (Walker, 1992).

A lot of narrators explain that the achievement and sustainability of TQM depend on transforming HRM processes. As firms and enterprises are applauded to leaning towards system-based processes rather than job-based processes.

References

- Agus, A., and Abdullah, M. (2000) ‘Total quality management practices in manufacturing companies in Malaysia: An exploratory analysis’. *Total Quality Management*, vol. 11, no. 8, pp. 1041-1051.
- Chong, C. L. (1998) TQM and ISO in Singapore: Strategy or ideology. In: Ho, S.K. (Ed.), “Proceedings of the Third ICIT”, HKBU, Hong Kong, pp. 421–426.
- Evans, J. R. and Lindsay W. M. (1996) *The management and control of quality*. St. Paul: West Publishing Co.
- Goetsch, D. L., Davis, S. B. (2016) *Quality Management for organizational excellence: Introduction to total Quality. Eighth Edition*. London: Pearson
- Hansen, T. (2001) ‘Quality in the market place: a theoretical and empirical investigation’. *European Management Journal*, vol. 19, no. 2, pp. 203-211.
- Hansson, J. and Eriksson, H. (2003) ‘The impact of TQM on financial performance’ *Measuring Business Excellence*, vol. 7, no.1, pp. 36-50.
- Hodgetts, R. M. (1994) *New paradigm organizations: From total quality to learning to world-class*
- ISO 9001:2015 -- Quality Management System. Requirements.
- Nair, A., (2005). ‘Meta-analysis of the relationship between quality management practices and firm performance-implications for quality management theory development’, *Journal of Operations Management*, vol 24., pp. 948-975.
- Walker, J. W. (1992) *Human resource strategy* New York: McGraw-Hill.
- Wilkinson, A. (1992), ‘The other side of quality: ‘soft’ issues and the human resource dimension’, *Total Quality Management*, vol. 3, no. 3, pp. 323-329.
- Wilkinson, A., Allen, P. and Snape, E. (1991) ‘TQM and the management of labour’, *Employee Relations*, vol. 13, no. 1, pp. 24-31.

STUDIES AND PROBLEMS IN THE ECOTOURIST SUPPLY IN WESTERN RHODOPES REGION

Dessislava Alexova

International Business School, Botevgrad, Bulgaria

dalexova@ibsedu.bg

Abstract: *The survey covers a study of the tourism potential, biodiversity and characteristics of ecotourism in the Western Rhodopes region in Bulgaria. The biodiversity of the region, tourist resources and opportunities for ecotourism supply were examined. A critical analysis of weaknesses in local tourism policies in the planning and development of the region as an ecotourism destination has been made. The existing ecotourism products and realizations in the region are examined. To achieve the research goal, a set of general and private methods corresponding to the interdisciplinary and heterogeneous nature of the study are used: methods of analysis and synthesis, cameral method, questionnaires, geographic methods of research.*

Keywords: ecotourism, regional planning, tourist resources, ecotourist supply

JEL classification: F63, F64, P28, Q01, Q26, R58

1. Introduction

Ecotourism is defined by IUCN as an environmentally responsible travel and visitation to relatively undisturbed areas, in order to achieve, study and appreciate nature (as well as any concomitant cultural features – created in the past and in the present), that promotes conservation, has low visitor impact, and provides for beneficially active socio-economic involvement of local populations. The observation of the wild nature is considered as the most widespread activity among the environmentally orientated type of tourism on an international scale, but only 10-15% of the ecotourists are birdwatchers who possess considerable knowledge or experience and who expect to receive more specific services. That is why, we can assume that the bigger parts of the tourists expect to observe interesting animals or they want to have other exciting experiences among a beautiful natural environment without having previous specific knowledge or abilities.

According to the ecotourism requirements for a strongly individual product supply in the areas with preserved natural resources, the varied Bulgarian nature gives the country a number of advantages in comparison with some more industrialized areas of Europe. A great number of relict, endemic, rare and protected species are presented in the area of the Western Rhodope Mountains. According to the National Strategy for Preservation of the Biological Diversity in Bulgaria (1998), the Rhodope Mountains laid on the prestigious forth place by priority, immediately after the existing National parks in Bulgaria – Rila, Pirin and Central Balkan.

2. Tourist potential and biodiversity of Western Rhodopes region

The abundance of flora diversity of the Western Rhodopes is a premise for development of botanical tourism, which could be defined as tourism in preserved natural areas which possess a very rich and attractive flora and vegetation. The

attractiveness of the plant species is defined by their decorative qualities, rareness or its unique characteristics (local or regional endemic species). Botanical tourism has a very big potential, but it is still under-developed. Special botanical tours are organized in the biosphere reserve Chervenata Stena, in the area of Trigrad and Buinovsko Gorge, in the areas of Smilyan, Beglika, Devin, etc.

The rich fauna diversity of the Western Rhodopes offers a huge potential for the development of environmentally responsible tourism. The Rhodopes are currently through the places most attractive for ecotourism for the foreign tourists. Among all of the ecotourism types developed there the bird watching is most developed, as it is in the country in general. Different parts of the Rhodopes are included in about 60 % of the circuit tours for bird watching, offered by the Bulgarian tour-operators, as well as in the itineraries of independently traveling birders. The diversity and the specific composition of the region's ornithofauna, as well as its better accessibility compared to some of the other Bulgarian mountains, are the key to its attractiveness for birdwatchers. According to the National Strategy for Preservation of the Biological Diversity in Bulgaria (1998), a number of species with expressed Mediterranean, Eastern European and Asian distribution can be observed there, including rare species for Europe and globally. Some of the most attractive places for bird watching on a national and international scale are to be found there (ex. the Trigrad Gorge for the wall creeper). The Western Rhodopes are one of the most important areas in Bulgaria for the breeding populations of the eagle owl, the white-backed woodpecker, the black woodpecker, the honey buzzard, etc. Their territory hosts the most numerous populations of the capercaillie and the hazel grouse in the country. The combination of opportunities to watch high-mountain and Mediterranean species together on a small territory is of big importance too. (Georgiev, 2005)

3. Regional planing and ecotourist supply in the Western Rhodopes region

An important program document that has been worked out for the development of ecotourism is the Regional Action Plan for Ecotourism – Western Rhodopes Ecotourism Destination, which strategically goals were defined in the following way: conservation of the natural and cultural heritage, development of the ecotourism business, regional and local development, but the authorities in Smolyan region still didn't realize the strengths of ecotourism, based on the exceptional abundance of natural and anthropological resources concentrated at comparatively small area. Fundamental problem of the tourist activity is the contrast between the high level of natural and cultural elements, which are not affected by human influence and the common orientation to confirmation of sustainable tourist destination. There are attempts aimed at creation of such coordinated tourist policy through development of strategies and programmes, but the results are still far from the expectations.

The packages for naturalists with general interests also find comparatively good realization in the Rhodopes, while the share of tours targeting the plants in the mountain, the observation of bears, wolves and other big mammals is still inconsiderable (about 10 %). The potential of the Rhodopes for development of other types of specialized ecotourism is very high as well. One of the most steady wolf populations in Bulgaria, which varies between 150 and 180 individuals, is there too. The number of Brown Bears in the Rhodopes is also high - about 200 individuals. (Spiridonov and Spassov, 2011)

On certain conditions and with some good advertisement the Brown Bear tours could resist to the competition from the Scandinavian countries, Slovakia and Romania and attract more foreign tourists. (Alexova, 2005)

4. Ecotourist product policy in the region – characteristics and problems

The characteristic of the tourist product is closely tied up with the evaluation of the tourist flows. The tourist product does not correspond to the rich resort and tourist potential of the region.

The capacity and the quality of the main tourist services (accommodation and catering) has vastly increased – new tourist necessary equipment has been provided. At the same, ceaselessly reconstruction of the existing necessary equipment contributes for tourists to establish conditions for higher quality of the tourist services.

Additional services, connected with the alternative forms of tourism haven't been developed enough yet – this concerns to the ecological, rural, cultural and sport tourism. There are very good resource premises for their development. The dominant additional services are connected with the classic types of tourism - mountainous and balneological, but the favorable microclimatic conditions haven't been used in fully yet. A complex health tourism - climatic and balneological, has not been offered too. Additional ecotourism services can be developed further but not through apply of identical decisions but through uniqueness and specific attractiveness, which to be sought.

The tourist goods, (with extremely souvenir character) could be used to extent the typical "Rhodopean" characteristics and to reflect more categorically the tourist destination aspect. The proposed tourist product in Smolyan region needs additional efforts with a view to achieve more general, complex and sustainable tourist supply.

There are initial surveys made by the author of the needs, natural resources, level of the services, infrastructure, price policy, advertisement materials – through consultations, collecting of data at place, survey of information – questions and answers, through personal contacts, completion of questionnaires, observation – contact with tourists and research of their behavior in supply of the tourist product.

Our researches and analysis refer to concrete ecotourism realizations in Smolyan region – development and encouragement of "Chudnite Mostove" ecotourism destination, "Orpheus's Garden – Rhodopean flora conservation by ecotourism development" (Alexova and Gyurova, 2009), "The canyon of Waterfalls" eco trail, etc., which are supported by investments from different programs and funds. Ecotourism in the future will be developed mostly in the same way, because of the lack of financial resources in the municipal budgets.

Ecotourism is at offer both in particular settlements and municipalities in the region and combined tourist product of several municipalities. In the past few years there has been increased interest toward the development of ecotourism due to the rich natural resources of a considerable part of the area's territory. The realizations of more dimensional projects (where neighbouring regions take part) have already begun. For example, the project "Protected areas – hidden pearls of the Rhodopes". It is a vastly more effective form for the conservation of biodiversity and nature landscape which gives a possibility for local populations' mass participation. The building of tourist infrastructure in the nature territories (information tables, trails with interpretative educational elements, observation stations, etc.) is not enough.

5. Conclusions

In conclusion, it can be summarized that the ecotourism supply in the Western Rhodopes region has a number of weaknesses. Insufficient potential is felt at a local level for the development of projects aiming attracting of investments as well as dealing with the need to consult local projects and moreover the local population is not

still convinced enough in the effect of ecotourism implementation, both for environment conservation and for the improvement of its prosperity.

There is a great demand of specified human resources, despite putting this question on a local and regional level. The resources of particular municipalities and the region as a whole haven't been used in a sufficient degree. This concern also to complex itineraries for ecological and cultural tourism. Informational and advertising matters for the consisting ecotourist products are not enough. A part of them haven't been designed with the necessary quality or they offer very limited information.

Aggressive investment interests for fast return leads to destruction of the environment in some of the territories. This is the most significant threat to the sustainable development of ecotourism in the region.

Ecotourism development has to rely on collaboration and partnership among environmental organizations, businesses, institutions and local populations. The sustainable and competitive ecotourism development should be provided by the general conditions and best practices as well as the experience of other countries.

REFERENCES:

Alexova, D. (2005) *Development of sustainable tourism as a tool for conservation of biodiversity, landscapes and natural resources of the Western Rhodopes*. Collection of scientific works of the student conference "Biodiversity Conservation and Management of Protected Areas". Bulgarian Biodiversity Foundation, Sofia, pp. 158-166.

Alexova, D., Gyurova, D. (2009) *Development of botanical tourism in the villages of Yagodina, Trigrad and Mugla*. Environmental engineering and environmental Ecological Engineering and Environment Protection, Vol. 8, No. 3-4. pp. 112-118.

Georgiev, D. (2005). *Review of existing practices related to wildlife observation and visitors' fee in nature areas*. Project "Rhodopean Global Significant Biodiversity and Landscape Conservation in Bulgaria". American Agency for International Development, Sofia, pp. 342-358.

Spiridonov, G., Spassov, N. (2011), *Bulgarian Red Data Book, Second edition, Vol. 2 Animals*, BAS Publishing, Sofia.

TRENDS IN THE DEVELOPMENT OF URBAN CULTURAL TOURISM

Simona - Violeta Ardelean

Doctoral School of Economic Sciences, University of Oradea - Faculty of Economic Sciences, Romania

sjardelean@yahoo.com

Abstract: *Nowadays, cities are becoming places of reference and at the same time a destination for an increasing number of tourists. Urban areas have developed from the point of view of the territory, quality and diversity of touristic products which has become an important resource for the touristic field. The paper explores: the shift from 'traditional' cultural tourism towards creative tourism, meant as an evolution of the former, directed towards an engaging and authentic experience, encompassing communities' lifestyles; the development of "ruin tourism" as an emergent form of tourism practiced in urban spaces, as well as with its spatial implications in terms of imagistic, practices and atypical spaces. The development of creative tourism presents new challenges for both the tourist and the destination. The article proposes an approach on how trends in the development of urban cultural tourism are in full process of affirmation, given that, in recent years many cities are trying a new identity to gain international recognition through tourism.*

Keywords: tourism; development; urban cultural tourism; creative tourism; experience-based tourism; ruin tourism.

JEL classification: Z320, Z390

1. Introduction

At the beginning of the 21st century, tourism has become one of the world's largest industries and goes on to record high growth rates. Many countries have a great interest in supporting tourism development given the socio-economic effects of this sector. They mainly refer to the positive impact on the balance of payments, regional development, diversification of the economy, income levels, state revenue, employment opportunities (Pearce, 1991).

Tourism and culture both play an important role in shaping the environment to meet the needs of consumers. Cultural Tourism is a key sector of the global tourism market, accounting for just under 40% of all international travel (UNWTO, 2017).

Within an urban community, the tourism can bring significant benefits (Stanciulescu, 2009). These benefits refer at: creating new work places; new perspectives for local tourism firms; new investment possibilities; increase of incomes and implicit the improvement of life standards for local collectivity; generating incomes from local taxes which can be used for restoration of infrastructure and improvement of the community facilities; improvement of the infrastructure whose direct beneficiaries, besides the tourists from the area, will be the residents of that area; assurance of the financial sources for conserving the natural areas, art, handicraft, archeological and historic areas, cultural traditions (European Commission, 1998).

2. Urban tourism and experience-based tourism

Urban tourism addresses visitors from everywhere and towns that aim to develop tourism function can be metropolitan centers or historic, small, cultural towns, although in the opinion of specialists (Cazes and Potier, 1996) urban tourism takes place in cities or urban agglomerations of at least 20,000 inhabitants.

The cities must be able to meet the expectations and needs of a growing number of tourists, attracted by the richness and variety of cultural objectives, sports, business, and so on, and must continuously renew and improve such facilities, so that they maintain on the tourist market. For a city to act as a key tourist attraction in first place it should have a heritage value to be accompanied by a complex infrastructure to meet the wishes of tourists. (Gârbea, 2013).

The image of a city or region becomes based both on physical assets, and a series of experiences built around those assets, generally extending to the 'living culture' and the atmosphere of places. The importance of identity and the acquisition of cultural capital in post-modern society points towards the use of *creativity* as an alternative to 'conventional' cultural tourism (D'Auria, 2009).

According to Pine and Gilmore (1999) and Amin and Thrift (2002), increasing competition in the market means that 'goods and services are no longer enough' and that producers must differentiate their products by transforming them into 'experiences' which engage the consumer. Experience-based tourism is the new concept that is gradually emerging to cater for this need. It is necessary to go beyond the fruition of the 'fleeting', enlarging the tourist experience in time through an intellectual and emotional involvement able to continue after the fruition and able to stimulate the fixation of the remembrance/memory. In the era of 'access economy', the mere production of goods and services is not enough and they are instead the experiences and the emotions offered to the consumer to constitute the base of the creation of value (Schmitt, 1999): from the continuous process of accumulation and consumption of the aforementioned 'symbolic capital', it achieves a market appreciation of the differential value of the beauty and the aesthetical quality. 'Experience-based' tourism often needs to employ more than just one supplier and to use more than just one set of experiences to make the offering complete.

Urban cultural tourism involves experiencing or having contact of differing intensity with the unique social fabric, heritage, and special character of places; moreover, by experiencing wider urban culture the tourist will have a chance to learn about the local community, or will have an opportunity to learn something about the significance of a place and its associations with the local community, that is its heritage (McKercher and du Cros, 2002).

3. Cultural and creative tourism

Richards and Raymond (2000) define creative tourism as: 'tourism which offers visitors the opportunity to develop their creative potential through active participation in courses and learning experiences which are characteristic of the holiday destination where they are undertaken'.

Creativity has become a more important element in regional development strategies because of three main reasons (Richards and Wilson, 2006): the rise of the symbolic economy privileged creativity over cultural products; regions and cities have increasingly used culture as a form of enhancement and therefore need to find new cultural products to create distinction in an increasingly crowded marketplace; destinations which lack a richly built heritage need to find new means of competing with those that do.

According to Richards (2007), perhaps we should be shifting our attention away from concepts of culture as a collection of 'products' (museums, heritage centres, events, and so on) toward a more fluid concept of culture as 'process' (links between production and consumption, processes of capital accumulation, identity formation and image creation). The emphasis on intangible factors has now arguably become more important than 'traditional' cultural assets.

Creative tourism will also grow as cultural tourism expands, because many creative tourists are also interested in the cultural attractions and experiences that they can have in the destination.

Greg Richards (2017), identify major future trends in creative tourism is: taking home skills as well as souvenirs; creative gastronomy; creative personal space; creative work; digital creativity; social connectivity; living like a (creative) local; holidays for the creative class; destinations as creative platforms; destinations as the hub of creative networks.

The search for new experiences means that intangible culture is becoming more important in cultural tourism, and that this trend will also continue in the future with the growing demand for engaging and creative experiences (UNWTO, 2017)

4. Urban exploration

Recent research in urban tourism has highlighted the continuing expansion and diversification of tourism in terms of practices and spaces, but also temporalities and involved actors, especially in metropolitan contexts (Aude Le Gallou, 2018).

This leads to an increasing valorization of so-called ordinary spaces or even urban margins as touristic attractions, contributing to the production of "new urban territories of tourism" (Gravari-Barbas and Delaplace, 2015, p. 2). On the other hand, limits between tourism and daily life tend to be more difficult to assess (Urry, 1995), thus challenging binaries on which traditional understandings of tourism rely. All these evolutions in urban tourism set the context for an increasing importance of new spatial practices developing in areas that were not integrated to tourism so far.

Among ordinary and marginal urban spaces recently arousing tourism interest, modern ruins. Ruin tourism can be understood as a form of reappropriation of several characteristics of urban exploration. Urbex and ruin tourism indeed value modern ruins, although it must be reminded that urban explorers also consider infrastructural areas such as sewers, construction sites or subway tunnels as relevant for their practice (Garrett, 2012).

5. Conclusion

Development of tourism leads to a diversification of tourism practices and spaces making way for alternative products. Urban tourism has been increasingly addressed within tourism studies in recent decades.

One of the important implications of creative tourism is that the destination has to be creative in order to develop intangible cultural resources, which are characteristic of the destination (such as traditions or local skills) into creative experiences for the tourists.

Ruin tourism fits into these recent evolutions of urban tourism and contributes to building new cultures of urban tourism.

Any urban destination that wants to develop tourism as the main branch of the economy, should carefully evaluate their development potential, and after that assessment it should establish how best to capitalize it.

References

- Amin, A. and Thrift, N. (2002) *Cities: Reimagining the Urban*, 2nd reprint, The Polity Press, Cambridge.
- Aude Le Gallou, (2018) "From urban exploration to ruin tourism: a geographical analysis of contemporary ruins as newfrontiers for urban tourism", *International Journal of Tourism Cities*, Vol. 4 Issue: 2, pp.245-260, <https://doi.org/10.1108/IJTC-12-2017-0085> [1 Nov 2019].
- Bădulescu, A. (2004) *Economia turismului*, Editura Universității din Oradea.
- Cazes, George, Potier, Françoise (1996) *Le tourisme Urbain*, Paris: PUF.
- D'Auria, A. (2009) 'Urban cultural tourism: creative approaches for heritage-based sustainable development', *Int. J. Sustainable Development*, Vol. 12, Nos. 2/3/4, pp.275–289.
- Garrett, B. (2012) "Place hacking: tales of urban exploration", PhD dissertation, University of London.
- Gârbea, A. (2013) *Urban Tourism Between Content And Aspiration For Urban Development*, *Management&Marketing*, volume XI, issue 1/2013. pp.193-201.
- Gravari-Barbas, M. and Delaplace, M. (2015) "Le tourisme urbain 'hors des sentiers battus'", *Téoros* [Online], Vol. 34, Nos 1-2, available at: <http://teoros.revues.org/2790> [2Nov 2019].
- McKercher, B. and du Cros, H. (2002) *Cultural Tourism*, The Haworth Hospitality Press, New York.
- Pearce, Douglas, (2001), "Urban Tourism: An Analytical Framework for Planning, Management and Research", *Annals of Tourism Research*, vol. 28, 926- 946.
- Pine, B.J. and Gilmore, J.H. (1999) *The Experience Economy*, Harvard University Press, Boston.
- Richard, G. (2017) *Trends in cultural and creative tourism*, [Online], Available:[https://www.academia.edu/34871948/Trends in cultural and creative tourism](https://www.academia.edu/34871948/Trends_in_cultural_and_creative_tourism) [4 Nov 2019].
- Stanciulescu, G. C. (2009). The role of urban marketing in the local economic development. *Theoretical and Empirical Researches in Urban Management*, 1(10), pp.114-135.

IMPROVING CROSS-BORDER COOPERATION IN THE FIELD OF TOURISM IN BIHOR COUNTY

Gabriela-Elena CSOKA

Doctoral School of Economic Sciences, University of Oradea, Oradea, Romania

gabi.csoka@yahoo.com

Abstract: *"Cross-border cooperation is the direct collaboration between neighboring regions along the border, in all areas, between local and regional authorities, involving all actors." The topic of cross-border cooperation is therefore very broad, dealing with issues of daily life at the local level, but also topics related to international law, from initiatives and plans for regional development through cross-border cooperation, to European Union strategies including funding programs. Cross-border cooperation has a tradition formed over several decades. The potential of tourism development as a way of diversifying and restructuring the border regions is based on "niche" tourism strategies. While some border regions have to deal with issues related to mass tourism, others, especially those whose development "drags on", tend to have good tourism potential. The main activities to promote tourism development in cross-border regions focus on strategic cooperation in order to research opportunities and develop cooperation strategies, followed by the creation of tourism products through cooperation, marketing strategies and support services.*

Keywords: Cross-Border Cooperation, Romania, Hungary, Tourism, strategies.

JEL classification: L83

1. Introduction

Cross-border cooperation emerged from the common interest of both parties to solve a collective problem. Experience has shown that it is more advantageous to approach it by a cross-border structure, thus avoiding duplication of efforts by the institutions of each region. In the border regions people have to face the historical past, the environmental problems, as well as the economic difficulties, all amplified by the political conditions. Cross-border cooperation initiatives serve to reduce tensions, create positive habits and relationships that can have effects over a large territorial range, as well can solve concrete problems that cannot be solved in a national context. The European Union offers to the cross-border regions both resources and sources of legislative inspiration, two important means to improve the conditions existing in the border regions. Borders, therefore, are an integral part of human behavior - being a product of the need for order, control and protection in human life, reflecting similarities and differences, a line drawn between "them" and "us" (Dogot et al., 2011). Boundaries are ubiquitous human constructions, the inevitable result of the diversity and limits of power and constraint, social organization, division of labor and promotion of collective identity within a geographically defined territory. However, all borders must remain flexible enough to withstand cross-border changes and exchanges. The existence of such infrastructure and affiliations combined with a high quality of life and environment, in turn, influences the attractiveness of a border region in terms of establishing in the area business / investments (Kozma, 2011). Cross-border regions tend to have comparative advantages over regions located in the main economic centers in terms of

quality of life and environmental factors. The borders of a state, very important from a political point of view in the last two centuries, were created as a result of wars, invasions or constraints. Few borders have been created democratically, by the will of the citizens. However, paradoxically, the borders were a "sine qua non" condition for the development of parliamentary democracy and welfare. Thus, prosperity increased only when the coercive function of the borders of a state was omitted or at least eliminated from the daily political activity (Brie and Kozma, 2006). Borders therefore remain an ambiguous thing, even a contradictory phenomenon. They facilitate the development of democracy, but impose geographical limits on it. They include, but at the same time exclude. Borders are barriers, but also bridges. For many, especially those who reside in border areas, borders are a resource (legal or illegal), as well as the symbol of their identity.

2. The potential of tourism development

Tourism can act as a catalyst in the structural adaptation and development of the cross border regions contributing to the development of various fields, including the labor market (new skills and alternative employment), infrastructure and facilities (roads, transport, accommodation and leisure facilities), investments and new business outlets. The strategies of tourism development must be based on the concept of development with chances of support and awareness of the potential weaknesses associated with the negative effects of tourism (on the environment, agriculture, local communities, etc.). The environmental aspects must be integrated in the decision making and the management of tourism projects. Successful tourism development in certain regions requires cooperation at the strategic level (product planning, markets, etc.) and at the level of practical actions / projects involving a wide range of interests (public, private, community). The perception of strong competition between border areas must be replaced by the idea that a border region can offer a single product or product range through cooperation. Strategies for successful tourism development refer to the creation of a variety of products and services to attract and retain tourists at an initial stage and then for longer periods; efficient targeting of market segments; and the delivery of "absolute" quality services (Țoca and Popoviciu, 2010).

3. Needs and priorities in cross-border regions

The needs and priorities related to the cross-border regions are marked interdependently. The quality of the environment is a key factor in establishing the tourism development potential in a region; the type of tourism that can be developed (ie mass tourism, covering both "summer" tourism in coastal areas as well as "winter" tourism in mountainous areas, fisheries / winter sports based, or "niche" tourism, based cultural heritage, activity-based tourism, rural tourism), and the quality of tourist products and the types of visitors that can be attracted. This applies to the development of tourism both in rural regions, which can be based either on "mass" or "niche" tourism, where landscape, physical features and lack of pollution are key environmental factors, as well as urban, culture-based tourism, heritage and recreation, where the quality of the built environment, infrastructure and support services, including transport connections to and within the area, are of major importance. Border regions, especially those with "rolling" development, tend to have good potential for tourism development. Cross-border regions tend to have comparative advantages over regions located in the main economic centers in terms of quality of life and environmental factors. The extent to which tourism can be a catalyst

for economic development in cross-border regions is highly dependent on the characteristics of the region in terms of tourism resources (coastline, mountains, cultural heritage), the mix of resources present and the degree of importance that strategies and activities on which allocates it to the promotion of tourism and cross-border cooperation (Boştinaru, 2013).

4. Previous experience in cross-border cooperation between Hungary and Romania

Although the variety of the environment (landscape, and resources with therapeutic potential) as well as the rich cultural heritage (architecture, monuments and traditions) can provide a solid basis for developing some forms of tourism in the eligible border area, both on the Hungarian side and on the Romanian part of the border, there are very few internationally known or famous tourist attractions. In 2017, the Bihor Destination Management Agency (DMA) intensified the cross-border cooperation in the field of tourism, between Bihor and Bekes counties, by signing a cooperation contract between representatives of the Bihor Destination Management Agency and the Bihari Tours Association in Békéscsaba. When signing the contract, the parties undertake to provide timely and reciprocal information that will help promote the two regions, prepare materials and publications in Hungarian and Romanian, and collect data to be able to discover and improve tourism requirements, so that the quality of services increases. Bihor County is well on the tourism chapter for the year of 2018, both in terms of the number of arrivals in the tourist reception structures, as well as in the number of nights. According to the latest data of the National Institute of Statistics (INS), in 2018 in the accommodation structures in the county, 1.522.418 tourists (1.371.084 Romanians and 151.334 foreigners) stayed. With this figure, Bihor County is ranked on the 4th place in the country, after Constanta, Bucharest and Brasov. Tourism specialists say that this classification of Bihor is justified. Bihor County has three major chapters that attract tourists. First of all, it's the Băile Felix and Băile 1 Mai resorts, which have some high-level accommodation structures. Then it is about the city of Oradea, which attracts tourists both by its location, near the border, and by the tourist objectives rehabilitated in recent years. Last but not least, it is about the mountainous area of Bihor, with the caves, with the objectives that keep the traditions, with the pensions built lately (Badulescu et al., 2014).

5. Improving and promoting cross-border labor mobility in the field of tourism

For 2019, the Destination Management Agency of Bihor (DMA) is the leader of a project through which over 2.7 million euros will be invested in training and specializing in human resources in the tourism and synergetic field in the Bihor Euroregion - Hajdú-Bihar. *"Creation and development of a cross-border polycentric network of training and support in order to increase the quality of tourist and craft services in Bihor and Hajdú-Bihar counties"* (Project Code: eMS 398, Acronym: ForTour BHHB) is financed through the INTERGREGER cross-border cooperation program ROMANIA-HUNGARY, PRIORITY AXIS 3, Improvement of employment and promotion of cross-border labor mobility, Investment priority 8 / b, in partnership with the Orthodox Parish of Körösszegapáti, Roman-Catholic Bishopric of Oradea, Parish of Reformia, Parohia Reohea Nord – Oradea and Izbuc Monastery. Through this cross-border project, whose total value is 2.718.106 Euros, the partners will follow the efficient increase of the percentage of employment in the field of tourism and hospitality in the Bihor-Hajdú-

Bihar Euroregion. Integrated cross-border human resource management strategies will be carried out with trained and specialized personnel in order to increase the attractiveness of the tourist destinations in Bihor and Hajdú-Bihar. 1020 persons from the tourism field will attend training / specialization courses; 2 workshops and 22 events (fairs / festivals) will be organized to promote local products and a common base of human resource needs in tourism will be created.

6. Conclusion

Cross-border cooperation in the Hungary-Romania border area is a powerful basis that can be built in the future. The border area is characterized by common multicultural traditions and ethnic diversity (especially in the Romanian part of the border), which provides a solid basis for "people to people" and for community-community actions in various fields, which leads to increased integrity of the entire border area and lays the groundwork for cooperation in other areas. The availability of a wide range of higher education institutes offering quality education in various fields can be considered as one of the most important strengths of the border area, offering the potential for quality research and development of services. The level of cooperation between universities, and between universities and enterprises is very limited at present; strengthening such cooperation can play an important role in increasing the competitiveness and integrated development of the area.

References

- Badulescu A., Badulescu D., Borma A., 2014, Enhancing Cross-Border Cooperation through Local Actors' Involvement. The Case of Tourism Cooperation in Bihor (Romania) – Hajdú-Bihar (Hungary) Euroregion, In: *Lex Localis* 12(3):349-371.
- Boştinaru V., 2013, Ultimii pași-absorbția fondurilor structuraleși decoeziune 2007-2013:www.regi.roșiwww.victorbostinaru.roCarta Verde a dezvoltării regionale în România.
- Brie M., Kozma G., 2006, From Smaller to Greater Europe: Border Identity Testimonies, Volume 2, Oradea University Press, Autumn, pp. 54-55.
- Dogot C. M., Perchoc P., Tokes T., 2011, Leaders of the Borders, Borders of the Leaders , Volume 11, Oradea University Press, Spring, pp.179-187.
- Kozma G., 2011, New Results Of Cross-Border Co-Operation, Didakt Kft., Debrecen, p.34.
- Şoproni L., 2007, The Romanian – Hungarian Cross – border Cooperation in the Regional Press of Bihor County, in *Eurolimes*, Vol. III, Oradea University Press, Oradea, p.77.
- Țoca C.V.,-Popovicu A.C., 2010, The European Grouping of Territorial Cooperation (EGTC), Instrument of Cross-borderCooperation. Case Study Romania – Hungary, in *Eurolimes* 10 (edited by Dolghi D. I. – Ilieş A. - Savvas Katsikides S - SÜLI-ZAKAR I.), Oradea University Press, Oradea, pp.91.
- Verheugen G., 2005, A renewed EU Tourism Policy: Towards a stronger Partnership for European Tourism, speech, Malta.

CERTIFICATION SYSTEMS IN THE LIGHT OF THE NEW STRATEGIES TO DEVELOP ECOTOURISM IN ROMANIA

Mirela Mazilu, Loredana Dragomir, Alexandru Dobrescu, Robert Malmare

Department of Geography, Faculty of Science, University of Craiova, Craiova, Romania

mirelamazilu2004@yahoo.com

loredana.dragomir25@yahoo.com

dobrescu.sorin.alexandru@gmail.com

robert.malmare@yahoo.ro

Abstract: *In the present days, many countries are making significant efforts to develop and operationalize a number of certification systems designed to confirm that a destination, a tourist company or a product improved its performance in terms of a number of criterias including: environment, conservation and biodiversity, product management, quality, etc. In these circumstances, our country also saw the need to develop such a certification system that would practically apply the principles of ecotourism to ensure the sustainable development of local communities, but also the conservation of nature. The purpose of our paper is to show that the Romanian certification system can be brought to the standards of international certification systems by adding new strategies on the home page of ECO-Romania that will improve the ecological environment.*

Keywords: certification system, ecotourism, ecolabel, standards, strategies, EcoRomania

JEL classification: L3; Q01; Z3; Z32

1. Introduction

The study is based on a very in-depth documentation of the content of specialized books and, in particular, the consultation of web pages.

The application of the current principles of sustainable tourism development in the protected natural areas and in the areas adjacent to them has led to the emergence of ecotourism as a distinct form of tourism.

Despite the fact that our country has a great ecotourism heritage, with great potential for exploitation, ecotourism is a segment faced with many problems, that is why the National Strategy for the Development of Ecotourism has been developed, which aims to promote ecotourism, as the main form of tourism within the protected areas and the certification systems have been laid.

Certification is defined as a voluntary procedure by which is evaluated, audited and offers a written guarantee that a tourist facility, product, process or service reaches certain specific standards. Those who meet or even exceed the basic standards are offered a commercial logo. Certification is one of the tools that provide a motivation for tourism businesses to improve their economic, social, but also environmental performance, while being simultaneously rewarded, tangible or intangible for these achievements.



Figure 1: Standards for obtaining certification from global systems
Source: authors

2. Certification systems - from international level to national level

The development of ecotourism in Romania is due primarily to the efforts made by the Association of Ecotourism in Romania (AER). This is an organization under which tour operators, non-governmental organizations of local development and nature conservation, and tourism associations, are trying to develop successful ecotourism programs meant to revive Romanian tourism.

The Association of Ecotourism in Romania considers absolutely necessary to develop an Ecotourism Certification System that practically applies the principles of ecotourism to ensure the sustainable development of local communities, but also the conservation of nature. The eco-tourism certification system of AER (ECO-Romania) adapted international practices to the Romanian context.

The certification system operates with a set of criteria developed by The Association of Ecotourism in Romania that must be met by the products of the tour operators subject to the certification procedure. The criteria are divided into two categories: **basic criteria** - they represent the basic norms that must be met by the product subject to certification in order to obtain at least the temporary ecotouristic classification, and **complementary criteria** - there are rules that finalize the classification of a product as ecotourism.

From the implementation of the Ecotourism Certification System, a number of benefits recognized by AER can result:

- It is a good way to allow customers to identify products that offer experiences related to rural culture and nature;
- It ensures a higher level of service quality;
- Participates in local sustainable development and nature conservation;

- Participates in increasing the degree of confidence in Romanian eco-tourism products internationally.

3. Promoting the ecotourism development strategy in Romania

The best tool for promoting a product, regardless of the class it belongs to, is the online environment. The website promoting ecological tourism in Romania is simply called: eco-romania.ro.

According to the data within the site, the association is more than 15 years old, with 56 members, most of the tourist agencies or tourist pensions oriented to information and consultancy on ecotourism and sustainable tourism.

Below is presented the main page of the website of the Ecotourism Association of Romania, but also their menus:

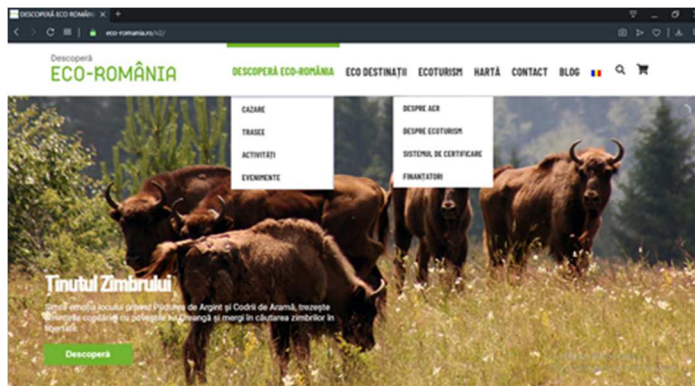


Figure 2: Eco- Romania home page

Source: <https://www.eco-romania.ro/>

The AER online page is well organized, as you can see, being structured into 6 menu options: Discover Eco-Romania, Eco Destinations, Ecotourism, Map, Contact, Blog. All information is in both Romanian and English. Besides all this, another positive aspect refers to the option of the map, which has in its composition several features, about accommodations, routes, objectives, etc.

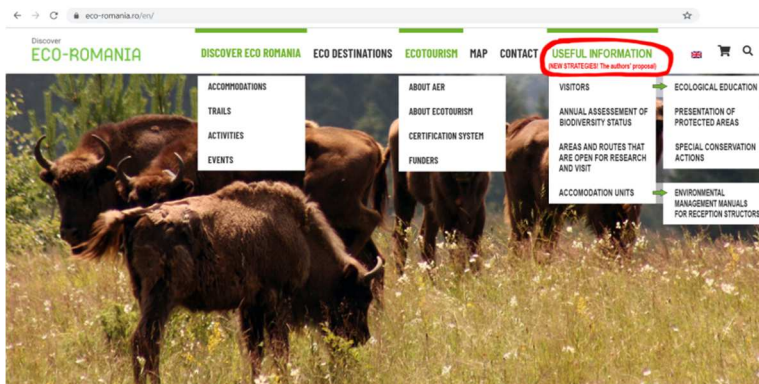


Figure 3: Development strategies for Eco-Romania home page

Source: authors based on <https://www.eco-romania.ro/>

To develop Ecotourism in Romania through our national certification system we suggest to create a new main section on the site called: „Useful Informations” (Figure 3) that could include strategies for visitors, accommodations structures, annual assessment of biodiversity status, areas and routes that are open for research and visiting.

Adding all these strategies in the online page of Romanian Ecotourism Association can make the site more attractive for national tourists and most important for international tourists.

4. Conclusion

Romania is one of the "richest" European countries in terms of biodiversity. The 27 national and natural parks, the Natura 2000 network and the cultural and historical heritage, make it an ideal area for ecotourism.

By implementing a system of certification of the quality of ecotourism services, the companies in the area could obtain a better image and an element of differentiation from the competition, resulting in beneficial effects on the profile market by reducing costs and improving performance. And the online environment could be the best mechanism for recognizing the conformity of ecotourism products developed by agencies and tour operators, local communities and accommodation structures, to the requirements of the principles of nature conservation, sustainable development of local communities and enhancement of natural and cultural resources. Thus, certification systems can become a source of income through the loyalty of users of ecotourism services.

References

Dragomir, L., Mazilu, M., Marinescu, R., (2018), *The connection between sustainable tourism and certification systems*, Forum geografic, XVII (2), p.146-151 <http://dx.doi.org/10.5775/fg.2018.032.d>

Dragomir, L., Mazilu, M., Marinescu, R., Bălă, D., (2019), *A Competitiveness And Innovativeness In The Attractiveness Of A Tourist Destination, Case Study - Tourist Destination Oltenia*, Advances in Social Sciences Research Journal – Vol.6, No.9, Sep, ISSN 2055- 0286, p.10-23

Hornoiu R., Nistoreanu P., Tanase M. O., (2009) , *Ecorom- Propunere De Sisteme De Indicatori Pentru Certificarea Calității În Ecoturism*, Academia de Studii Economice din București, România

Mazilu, M., Gheorgheci, S., Barbat, A., Dragomir, L., Dobrescu, A., (2018), *New Opportunities For The Romanian Tourism In 2018*, The Fifth International Conference Geographical Research and Cross-Border Cooperation, Craiova, Romania, 6 – 9 September

Mazilu, M., Dragomir, L., Băbăș, A., Dragomir, C., (2018), *Innovative / Competitive Tourist Product In Revitalizing A Tourist Destination. Case Study: The Danube Cluster*, Proceedings of the 9th International Conference of Doctoral Students and Young Researchers, Oradea, No. 6, December, p.161 - 164

Popa R.E., Nicula V., (2012), *An Overview On Quality Certification Of Ecotourism Services*, Quaestus Multidisciplinary Research Journal, Timișoara, p.192-200,

Asociația de Ecoturism din România <https://www.asociatiaaer.ro/> [15 Oct 2019]

Eco-România <https://www.eco-romania.ro/> [15 Oct 2019]

BUSINESS ETHICS AND SOCIAL RESPONSIBILITY OF MULTINATIONALS IN THE RECEIVING ECONOMIES

Maria-Ramona Sarbu

Babeş-Bolyai University, Cluj-Napoca, Romania

sarbumariar@gmail.com

Abstract: *The social responsibility of companies is a voluntary action taken by firms, challenging the economic, social and environmental challenges, these being the dimensions of sustainability. The purpose of this paper is to identify theories and models of business ethics and social responsibility of multinationals in the receiving economies. The theoretical landscape of business ethics and social responsibility of multinationals in the recipient economies is complex and, at the same time, the theories identified highlight that the theoretical process of business ethics and social responsibility of multinationals is continuous and increasingly controversial. Corporate social responsibility (CSR) plays a major role not only for the company's employees and business partners, but also for the good of the whole society. The importance of corporate social responsibility is reflected at an international level through the evolution of regulations and policies on corporate social responsibility practices. Implementation of organizational codes of conduct and further harmonization of management standards in the field of social responsibility can stimulate the increase of transparency and trust in companies, the quality and productivity of employees due to a safe and healthy working environment and the credibility of reports on social responsibility, reputation and customer satisfaction.*

Keywords: Corporate social responsibility; Business ethics; The UN Global Compact; The theory of the social contract.

JEL classification: M14.

1. Introduction

Recent changes on international markets led to an explosion of companies with worldwide operations, and therefore, ethical problems are likely to increase, implying the need for a global code of ethics. But as companies and managers of these companies have contractual relationships with business partners from different countries, there is a need to understand the ethical decision-making processes. Divergences of ethical behaviour can be explained by variables related to differences in perception regarding the importance of ethics and social responsibility in achieving organizational effectiveness (Singhapakdi et al., 2001; Asgary and Mitschow, 2002). Literature sees social responsibility as a dimension of business ethics. A good part of ethics deals with the inside character of the company, which must be assumed daily, and which, at the same time, should not only last for a moment but also for the medium and long term (Cortina and Conill, 1996:118 – 121).

Regarding the structure of this paper, besides this introductory chapter, the paper contains two sections. Section 2 brings out the principles of business ethics and social contract theory, Section 3 presents the social responsibility of multinationals in the recipient economies, and addresses issues regarding the Global Pact.

2. The principles of business ethics and the theory of the social contract

Reality has shown that the market economy is based on business ethics, high labour productivity, rigorous organization of business, partner responsibility for written or verbal engagements, business people's ability to ensure better working and living conditions. Actions in this area must step up so that the company's culture determines the decision-makers of the firm to find promotion and control over social responsibility and ethical attitude, as owners and managers decide the economic performance that must be met (Botescu et al., 2008). At the same time, the application of ethics in business is based on the translation of certain principles into practice. All decisions on business ethics are basically compromises in the economic and social responsibility of the firms, or between aspirations and debts in the case of individuals (Mitu and Nanu, 2010:33). In this sense, the eight practical principles of business ethics developed by Professor Thomas W. Dunfee of Pennsylvania University are the following: (quoted from Potincu and Potincu, 2013:7-8, Mitu and Nanu, 2010:33 -34): (1). Respect for the legal rules in force on a national, community and global level, even if they are inappropriate laws, considered wrong by the outsiders. (2). Respect for the confidentiality of information from the perspective of three relationships: between the employee and the company, between the supplier and the client, between the negotiator and the outside. (3). Sensitivity to conflicts of interest. This involves detecting them and, if possible, avoiding them, as well as transparency and calling for neutral referees to resolve these conflicts. (4). Professional consciousness and professionalism implies exercising the profession with conscience and caution, cultivating professional competence, limiting decisions and actions to professional competence. (5). Loyalty and good faith, bearing in mind the moral obligation not to deceive, to keep his word, to be fair. (6). The sense of responsibility implies considering the practical consequences of decisions, as well as assuming the responsibility. (7). Respect for the rights and freedoms of others, which implies freedom of behaviour, freedom of opinion and the avoidance of any kind of discrimination. (8). Respect for the human being is intended not to cause harm to others as well as respect for the human personality.

An approach that links the norms of daily life to business is "the social contract theory," a normative, realistic and comprehensive theory, developed by American authors, a theory that pertains to a set of ethical rules structured on three levels. The first level contains moral hyper sums, rules of a general nature applicable to personal liberty, physical security, and the right to information. The second level, called the macro-social contract (global), is based on free consent to the rules. The last level is the microsocial contract, which sets the basic moral rules in the commercial field. Thus, a good economic operator does not mind negotiating, honours all contracts, gives priority to hiring local people, offers safe jobs, pays tax obligations and finally protects the natural environment (Potincu and Potincu, 2013:9-10).

3. The social responsibility of multinational firms and the Global Pact

In recent years, the issues regarding social responsibility have developed in a global policy issue (Fritsch, 2008). In a relatively recent study, it is argued that there are

three emerging perspectives that inform the social responsibilities of businesses. First, it is the so-called "capital reputation" that sees corporate social responsibility as a strategy to reduce investment risks and maximize profits. The second perspective, called "ecosystem", considers social and environmental sustainability as essential for market sustainability. The third perspective is the rights-based vision, which emphasizes the importance of accountability, transparency and social/environmental investment as key aspects of corporate social responsibility (Monshipouri, et al., 2003:967). At the same time, Corporate Social Responsibility is a problem that has become particularly important in recent decades. Fortunately, its importance has been reflected, in an international context, by the proliferation of regulations and indexes, the fundamental objective of which is to establish models for companies to disseminate information on CSR practices. For example, ISO 26000 was adopted in 2010, and guides social responsibility in terms of accountability, transparency and general behaviour. Similarly, the Carbon Disclosure Project is an initiative that has gained special relevance in the context of the environment (Sullivan and Gouldson, 2012, quoted in Leslier Valenzuela Fernández, Mauricio Jara-Bertin and Francisco Villegas Pineaur, 2015:330) in which companies are contributing voluntarily to information that result in the development of an index of sustainability. Corporate Social Responsibility is understood as any process through which firms decide to contribute to a better society and a cleaner environment. This responsibility is expressed towards employees and, in general, towards all the partners of the company and which in turn can influence its success (Commission of the European Communities, 2001, quoted in Leslier, et al., 2015:331). Over time, voluntary corporate social responsibility strategies have become fashionable as a response from the business community and international organizations due to the growing dissatisfaction with the flagrant abuses of corporate power against humanity and the environment. A clear example in this respect is the Global Pact, which was created by the United Nations (UN) in 2000. The Global Pact is the largest global initiative that includes a wide range of different actors from gigantic non-profit and non-governmental transnational corporations (Soederberg, 2007). Thus, the UN Global Pact was adopted as a voluntary initiative, encouraging businesses around the world to adhere to the ten principles of social responsibility and sustainability. Since then, the ten principles of the human rights, workforce, the environment and the fight against corruption have helped entrepreneurs from over 170 countries to promote society's goals, to implement responsible practices, and to develop innovative solutions to meet the current challenges of globalization. The Global Pact is considered to be the largest corporate sustainability initiative in the world (Zemanova and Drulakova, 2016) and serves to illustrate how international institutions are trying to adapt to the growing complexity of economic development and governance issues as well as the greater influence of non-state actors in the global political economy (Fritsch, 2008).

4. Conclusion

Business ethics and social responsibility of multinationals in recipient economies are the subject of complex debates, and they are also analysed from different perspectives in literature over time. Corporate social responsibility plays a major role not only for the company's employees and business partners, but also for the good of the whole society. At the same time, the importance of corporate social responsibility is reflected at an international level through the evolution of regulations and policies on corporate social responsibility practices. Implementation of organizational codes of

conduct and further harmonization of management standards in the field of social responsibility can stimulate the increase of transparency and trust in companies, the quality and productivity of employees due to a safe and healthy working environment and the credibility of reports on social responsibility, reputation and customer satisfaction.

5. Acknowledgements

This work was supported by the Babeş-Bolyai University of Cluj-Napoca, Romania.

References

- Asgary, N. and Mitschow, M. C. (2002) "Toward a model for International business ethics", *Journal of Business Ethics*, Vol. 36(3), pp. 239-246.
- Botescu, I., Nicodim, L. and Condrea, E. (2008) "Business ethics and the social responsibility of the company", *The Amfiteatru Economic journal*, Vol.10(23), pp.131-135.
- Cortina, A., and Conill, J. (1996) *Ética de la empresa*, Madrid: Trotta.
- Fritsch, S. (2008) "The UN Global Compact and the global governance of Corporate Social Responsibility: Complex multilateralism for a more human globalisation?. ", *Global Society*, Vol. 22(1), pp. 1-26.
- Leslier, V. F., Mauricio, J.–B., and Francisco, V. P. (2015) " Prácticas de Responsabilidad Social, reputación corporativa y desempeño financiero", *RAE-Revista de Administração de Empresas*, Vol. 55(3), pp. 329-344.
- Mitu, N.E. and Nanu, R.M., (2010) *Etică și negociere în afaceri*, Craiova: Sitech.
- Monshipouri, M., Welch, C. E. and Kennedy, E. T. (2003) "Multinational corporations and the ethics of global responsibility: Problems and possibilities", *Human Rights Quarterly*, Vol. 25(4), pp. 965-989.
- Potincu, L. and Potincu, C. R. (2013) *Etică în afaceri și responsabilitate socială corporatistă. Interferențe economice și juridice*. București: C.H. Beck.
- Singhapakdi, A., Karande, K., Rao, C. P. and Vitell, S. J. (2001) "How important are ethics and social responsibility?-A multinational study of marketing professionals", *European Journal of Marketing*, Vol. 35(1/2), pp. 133-153.
- Soederberg, S. (2007) "Taming corporations or buttressing market-led development? A critical assessment of the Global Compact", *Globalizations*, Vol. 4(4), pp. 500-513.
- Zemanova S. and Drulakova, R. (2016) "Making Global Goals Local Business In V4 Countries: V4 Entrepreneurs and the UN Global Compact", *Globalization and its Socio-Economic Consequences*, 16th International Scientific Conference Proceedings, pp. 2490 – 2497.

A ROMANIAN APPROACH REGARDING THE CSR THEORIES

Nicoleta-Daniela Milu

Doctoral School of Economic Sciences and Business Administration, West University of Timisoara, Romania

nicoleta.milu94@e-uvt.ro

Abstract: *In Romania, large companies, most of which are multinationals, have made significant progress in integrating the concept of social responsibility (CSR) into their activity. The concept of CSR in small and medium-sized companies is still in the early stages of reporting, but with great development prospects. Romanian companies have gradually begun to develop their own culture in terms of social responsibility. The main objective of this article is to analyze how Romanian authors approach CSR theories in their research. The CSR action is seen by the authors as an interdependent relationship between corporations and society. Social requirements are generally considered to be a way in which society interacts with the business environment and gives it a certain legitimacy and prestige.*

Keywords: CSR theories, company, society

JEL classification: M14; M40; M49.

1. Introduction

In the literature there are different perspectives on the concept of CSR both theoretical and practical, from different points of view regarding the role of corporations in society. Values and norms differ in their form between cultural spheres, countries and political systems and can be changed over time. The problem of how values and norms are formed is the key to understanding current developments and changes in social relations.

The main purpose of this article is to identify the theories underlying the CSR and to approach these theories of the various Romanian authors in their research.

The methodology used in the writing of the paper starts with the analysis of the literature, and will be synthesized in the second part of the paper.

The result of the research shows that most articles of Romanian authors are based on integrative theories, which largely recognize an interdependent relationship between corporations and society.

2. Theoretical considerations

Corporate social responsibility (CSR) has been applied in the Romanian economic environment quite recently, taking over and developing practices and activities in that sphere to allow multinational partnerships.

The opinion of the authors Obrad et al (2011) regarding CSR integration in Romania is that corporate social responsibility actions have diversified and gradually became professionalized by the existence of multinational companies in the domestic economy, becoming in many cases, "a constant, integrated concern in their development strategy".

At international level, Garriga and Melé (2004) present a taxonomy of the main theories and approaches of CSR. As a starting point for their classification, the authors suppose that the most important theories and approaches of CSR have four dimensions, regarding profits, political performances, social requirements and ethical values. This hypothesis allows the authors to classify CSR theories into four groups: instrumental, political, integrative and ethical theories.

Instrumental CSR theories represent the traditional view on corporate social responsibility, in which the role of the state and the business environment are clearly differentiated. Theories in this category support the hypothesis that the sole responsibility of corporations is to generate economic benefits (Garriga and Mele', 2004).

Scherer and Palazzo (2011) are of the opinion that CSR theories of political nature assume that companies assume a political role in addressing the problems caused by the insufficient state governance and maintaining certain social and environmental standards.

Integrative CSR theories largely recognize an interdependent relationship between corporations and society. These theories focus on integrating the expectations of stakeholders in corporate operations (Geva, 2008).

According to Friedman (1970), the normative theory of stakeholders on ethics and morality offers an objective for CSR literature, defending the ethical premise of companies that behave well from a societal perspective.

Fernando and Lawrence (2014) believe that at the basis of CSR, there are two other theories: stakeholder theory and legitimacy theory. The stakeholder theory is closely linked to the creation of value for the entity and for the stakeholders.

Dumitru et al. (2017) studied the relationship between value creation and stakeholder theory through integrated reporting and they come to the conclusion that communication is an important element for value creation, and that there are discrepancies in the content of information reports that address different categories of stakeholders.

Kerscher (2015) is of the opinion that an essential condition for the theory of legitimacy is the concept of the social contract which claims that any organization within the society operates through a social contract.

In contrast to classical economic theories, a corporation must seek societal approval of its operations and revenues to ensure long-term survival.

3. The approaches of the Romanian authors regarding the concept of CSR

In table no. 1 are synthesized the ideas of the Romanian authors who approached in their research the concept of CSR and the relationship between company and society, with reference to the CSR theories analyzed in the first part of the paper. The articles and books were chosen from those written during the last ten years, and published in relevant international journals indexed in database, as well as in recognized publishers. The criteria for choosing the papers of the Romanian authors are the following keywords: CSR theories, stakeholders, policy, ethics, economic benefits, instrumental, integrative.

According to the authors Anghel et al. (2011), companies undertake CSR activities more for shareholders, the sole responsibility of the corporations being that of generating economic benefits.

The papers of the authors, Dragomir and Anghel (2011), Munteanu et al. (2015) and Hategan et al. (2018) are based on stakeholder theory, initially, being voluntary, CSR reporting was determined by stakeholders other than the state. Over time, the situation

has changed and governments have started asking entities to submit various reports, indicators or statements on social and environmental issues.

Dobrea (2006) and lamandi (2012) have as starting point in their research the ethical theories. From this perspective, social responsibilities are considered as an ethical obligation that is based on the notion of a common set of values and norms.

Dumitru et al. (2017), Hristea (2011), Lungu et al. (2016), Obrad et al. (2011), Olaru et al.

(2011) and Petrovici (2015) are the authors who have based their works on the basis of integrative theories, thus the social needs are integrated within the business. The starting point in organizing CSR activities is the identification social needs that a company understands to respond to.

An essential partner for CSR is the community itself, whose needs social are the premise and substance of the CSR strategy.

Table 1. The approaches of the Romanian authors regarding the CSR concept

Authors	Main idea	CSR theories
Anghel et al. (2011)	-organizations are more concerned with shareholders than consumers and employees;	instrumental theories
Dobrea (2006)	-CSR represents the achievement of economic success in an ethical manner;	ethical theories
Dragomir and Anghel (2011)	-CSR is the prompt reaction of the enterprise to the increased interest of the stakeholders;	stakeholders theory
Dumitru et al. (2017)	-CSR is characterized by exploiting the core activity in a way that involves social responsibility;	integrative theories
Hategan et al (2018)	-CSR expresses the relationship between "doing well" and "doing good";	stakeholders theory
Hristea (2011)	-CSR strategy brings added value to both the initiators and the beneficiaries;	integrative theories
lamandi (2012)	-between CSR actions of the company and its moral values there is a direct and reciprocal relationship;	ethical theories
Lungu et al. (2016)	-the interest of companies for CSR derives from the increasing pressure exerted by different stakeholders;	integrative theories
Munteanu et al. (2015)	-CSR represents the impact of the company on the stakeholders, throughout the scope;	stakeholders theory
Obrad et al. (2011)	-CSR activities represent the identification of the company's needs;	integrative theories
Olaru et al. (2011)	- CSR - ensuring the economic success of an organization, by integrating social and ecological aspects into its processes;	integrative theories
Petrovici (2015)	-CSR is seen as an approach to measures that serve the common good of the company and society.	integrative theories

Source: own representation based on the articles of the Romanian authors

From table 1, it turns out that most of the selected articles are based on integrative theories that largely recognize an interdependent relationship between corporations and society. Social requirements are generally considered a way in which society interacts with the business environment and gives it a certain legitimacy and prestige.

4. Conclusion

Given that all corporate social responsibility information is centralized in a non-financial report, it should be based on all six theories presented above. With these theories, non-financial reporting of companies would be transparent and credible to all stakeholders.

Most authors present CSR activities as an interdependent relationship between company and society: the company without society cannot exist and vice versa. The most commonly used theories to define CSR are integrative theories, followed by stakeholder theory and ethical theories. CSR is seen as an approach of some actions, after which it will have to win both the company and the company, between the two, having a direct and reciprocal relationship.

The limit of this paper can be consider the small number of reviewed articles and a future direction of research can include several articles written by foreign authors.

References

- Anghel, L.D., Grigore, G.F. and Roșca M., (2011) Marketing related to a cause, part of corporate social responsibility and its influence on consumers, *Amfiteatru Economic*, Vol. XIII, No. 29; pp. 73-86;
- Dobrea, R.C. (2006) Organizational management and corporate social responsibility, *Public administration and management*; pp.89-93;
- Dragomir, V.D. and Anghel (Ilcu) E.R., (2011) The social responsibility practices of the European companies regarding the facilities granted to the employees and the consumer protection, *Amfiteatru Economic*, Vol. XIII, No. 29, pp. 87-103;
- Dumitru, M.; Dyduch, J.; Gușe R.G.; Krasodomska, J.; (2017) Corporate Reporting Practices in Poland and Romania – An Ex-ante Study to the New Non-financial Reporting European Directive, *Accounting in Europe*, 14:3, pp. 279-304;
- Fernando, S.; Lawrence, S.; (2014) A theoretical framework for CSR practices: Integrating legitimacy theory, stakeholder theory and institutional theory, *The Journal of Theoretical Accounting* 10.1, pp. 149-178;
- Friedman, M.: (1970), The Social Responsibility of Business is to Increase its Profits, *New York Times Magazine*, September 13; Available: <http://umich.edu/~thecore/doc/Friedman.pdf> [20 October 2019];
- Garriga, E.; Mele, D.; (2004) Corporate Social Responsibility Theories: Mapping the Territory, *Journal of Business Ethics*; 53, pp. 51–71;
- Geva, A, (2008) Three Models of Corporate Social Responsibility: Interrelationships between Theory, Research, and Practice, *Business and Society Review*, Volume 113, Issue 1, pp. 1-41;
- Hategan, C.-D.; Sirghi, N.; Curea-Pitorac, R.-I.; Hategan, V.-P. (2018). Doing Well or Doing Good: The Relationship between Corporate Social Responsibility and Profit in Romanian Companies. *Sustainability*, 10, 1041.
- Hristea A.M., (2011) Corporate social responsibility - between desire and reality, *Economie teoretică și aplicată*, Volumul XVIII, No. 10(563), pp. 56-73;
- Kerscher, A; (2015) Corporate Social Responsibility and the Market Valuation of Listed Real Estate Investment Companies;

Available: https://epub.uniregensburg.de/33011/1/Dissertation_Alexander_Kerscher_Bd_79.pdf [4 October 2019];

Lungu, C.I.; Caraiani, C.; Dascălu, C.; Turcu, D.; Turturea, M; (2016) Archival analysis of Corporate Social Responsibility research: the Romanian perspective, *Accounting and Management Information Systems*, Vol. 15, No. 2, pp. 341-371;

Obrad C., Petcu D., Gherheș V., Suciu S., (2011) The social responsibility of Romanian companies between perceptions and reality, *Amfiteatru Economic*, Vol. XIII, Nr. 29, 44-56;

Olaru M., Stoleriu G., Șandru I.M., (2011) Concerns of SMEs in Romania regarding social responsibility in relation to the criteria of the European model of excellence EFQM, *Amfiteatru Economic*, Vol. XIII, Nr. 29, pp. 57-72;

Petrovici, A.M. (2015) *Corporate social responsibility - manual of good practices*, Presa Universitara Clujeana;

Scherer, A. G. & Palazzo, G. (2011). The New Political Role of Business in a Globalized World: A Review of a New Perspective on CSR and its Implications for the Firm, Governance, and Democracy. *Journal of Management Studies*, Vol. 48, (4), pp. 899-931.

CORPORATE GOVERNANCE OF PUBLIC UNDERTAKING

Dorin Marian Privantu

Doctoral School of Economics, Faculty of Economic Sciences, University of Oradea, Oradea, Romania

privantu.dorin@yahoo.com

Abstract: *As we will understand from the content of the present document, the concept of corporate governance has an important role in the business area, this representing a central and dynamic aspect of the economic reality and being more and more present in numerous states of the world. We will see that the term “governance” comes from old French, “gouvernance”, which means to lead a state or a people. The word was taken from the Latin word “gubernare” which is translated as “to lead”, “to direct”, “to straighten” or “to govern”, that was in its turn taken from old Greek from the word “kubernân”, usually used to refer to leading a ship, a boat that suggests the fact that “governance” (corporate, in case of the treated subject) involves the direction function than the control.*

Keywords: corporative governance, governance of public institutions, governance, public institutions

JEL classification: H83; J18; J28

1. Introduction

The internationalization of the markets and the activities of the enterprises, determine the bigger or smaller companies to take measures, consequently the process of globalization is a profound and irreversible phenomenon and in a continuous expansion. Corporate governance systems vary widely from one country to another, and these differences directly affect both the development of global strategies and the types of strategies that can be adopted. Since the 1980s, globalization and computerization have revolutionized the paradigm across the political, socio-cultural and economic world, causing dramatic changes in every part of human life. The change of paradigm has led to substantial changes in corporate governance, causing active discussions until now.

2. Conceptual clarifications on corporate governance in the context of globalization

In 1996, Hawley and Williams have made a review of the literature relating to corporate governance in the U.S. as supporting documentation. They have identified the following theoretical sources: Agency Theory, Stewardship Theory, Stakeholder Theory (Hawley, Williams, 1996, 54). We will just make a brief summary of these main theories that underpin the development of the concept: the corporate governance concept has evolved from the agency (agent) theory. This theory assumes that the person who owns the shares (the investor/ shareholder) is not the same as the one who manages the business (manager/ administrator). Between shareholders and managers, is established a relationship of representation on contractual terms that are quite imperfectly defined: as “holders”, the shareholders designate managers as

“agents” to act in their best interests. This type of relationship creates the premises of the following two characteristics of relations between shareholders and executives. There is an inherent conflict of interest between shareholders and managers. The former want profits and increase the value of the shares they own, which requires great efforts from managers for lower salaries. Managers aim to get higher salaries and may be more interested in power and prestige, to the detriment of shareholder value. The “holder” has limited knowledge of the “agent's” competency, actions and goals, which creates an informational asymmetry between partners that explains the latest media scandals. Conflict of interests and informational asymmetry between shareholders and managers generates a series of ethical dilemmas for each of the two categories, related to both the relationships between them, as well as the approach of distinct positions of relations between each group and the other categories of stakeholders. The nature of these dilemmas differs, however, according to the dominant corporate governance model (Shleifer, Vishny, 1997, p, 742).

Foundations of the theory of agency may be found even in the writings of Adam Smith: “You cannot expect those who administer the money of others to be as careful and caring as if they were theirs. Waste and negligence are always present, more or less, in the management of companies’ businesses” (Predescu, 2015, p. 73). According to Adam Smith’s formulation, it is understood that in its simplest form the agency theory limits the debate on corporate governance to the mere face-to-face between the shareholder and the leader, the first playing a leading role and the second acting agent, being only considered a manager of others’ money.

3. Conceptual clarifications on the governance of public institutions

Large areas of the globe are characterized by what we call weak, fragmented states, rapid economic downturn. This weakness of the state, seen as an inability of public governance (to manage public affairs), should be distinguished from what some consider to be an alteration of the actions the nation-state can undertake in the context of globalization. In such a world, the growth of economic interdependencies, we would assist, it is said, to the birth of a “virtual state”; some analysts even talk about border irrelevancy, although paradoxically, in many areas of the globe, territorial conflicts lead to massive military confrontations. In reality, and against the background of integration and fragmentation trends, the nation state is far from exhausting its historical role. Regarding the economic side, here we can talk about a redefinition of the role of the state - whether as an assistant state or as a guardian of the regulations of economic life, if in the US the emphasis falls on state regulations and orders of the private sector, in Europe the public sector has a greater visibility” (Dănescu, 2008, p. 37). A good governance of local public institutions means more than providing quality public services, means preserving citizens' lives and freedom, creating space for democratic participation and dialogue, promoting local sustainable development and improving the quality of life. Creighton believes that citizens’ participation represents the process of involvement in the public concern, where needs and values are incorporated into substantiating governmental and corporate decisions. It consists of a two-way interactive and communicative process, with the goal of adopting better decisions accepted by the public (Dragomir, 2012, p. 17). A society that is based on the principle of equality is the society that equally promotes citizens' freedoms and aspirations, recognizing that people's needs and goals are different, and striving to eliminate barriers that limit their freedoms and aspirations. Respecting the principle of equality is therefore a useful tool in combating those discriminatory institutional processes at the level of public institutions. At the same time, the concept of equality can be addressed

in several aspects such as age, gender, race, religion, disability, beliefs and sexual orientation. In order to successfully solve the problems related to the discrimination of the disadvantaged groups, a necessary condition at the level of the public institution is the knowledge of the actual community, the identification of the main groups, their classification according to type, localization, etc., it must be taken into account the diversity of categories of public services offered to the general public, different levels of activity and experience in the field of equal opportunities, as well as the local context (Morariu, 2006, p. 32). The principle of equality is the cornerstone of a modern governance style within local public institutions, helping to improve the degree of satisfaction of local public services. Although equality is a very complex concept, Romanian legislation treats predominantly the equality between women and men through the Law 202 of 2002 republished in 2007.

We believe that public institutions in Romania should pay greater attention to the promotion of equal treatment in the process of substantiating and implementing local public policies, and their goals must not only stop to meet the general interest of the community. Governance of public institutions in the light of the principle of equality and non-discrimination means more than that, means identifying and solving the inequalities of disadvantaged groups in order to promote social peace (Răileanu, 2011, p. 54).

As mentioned, corporate governance or corporate leading is the system by which a company is run and controlled. Corporate governance can be defined as the whole of a company's relationship with its shareholders, or more broadly, with society as a whole. Corporate governance specifies the distribution of rights and responsibilities between the different categories of people involved in the company, such as: the board of directors, directors, shareholders, and other categories, and sets out the rules and procedures for making decisions about a company's activity. We observe that, regardless of the vision presented, most of the opinions on corporate governance focus on the status of the owners (shareholders) gradually, tacitly or explicitly removed from the decision-making process, and on managers' tendencies to use their own power in their own interests (often discretionary) within the firm. We can conclude by affirming that corporate governance designates the set of principles and rules used by companies to build and operate the Management Boards so that they can fulfill their attributions, tasks, responsibilities and competencies that they have been entrusted to implement with success the pre-established targets as the owners of the objectives, including the declared value systems. A number of other researches focused on the need to separate ownership management, highlighting performance and efficiency aspects (Predescu, 2017, p. 12). Consequently, companies must take into account not only the interests of shareholders, but also the interests of groups that invest anything other than capital.

4. Principles of governance. From the Cadbury Report to the OECD Principles

A corporate regime must ensure transparency and timely dissemination of accurate information on all significant business matters, that is to say the financial situation, the results, the shareholders and the governance of this company. In the chapter on the responsibilities of the Board of Directors it is shown that corporate governance must ensure the strategic direction of the enterprise and the effective supervision of the management by the Board of Directors, as well as the responsibility and loyalty of the Board of Directors towards the company and its shareholders (Spencer, 2006, p.103). E-governance and innovation can provide significant opportunities to turn public administration into a sustainable development tool. In a broad sense e-governance

can be defined as the use and application of information technologies in public administration, for can be defined as the use and application of information technologies in public administration, for streamlining and integrating workflows and processes, for efficient data and information management, for quantitative and qualitative increase in public service delivery, and to expand communication channels to involve the public and citizens (Archmann, Castillo Iglesias, 2010, p.19). In a similar register, the concept of e-governance is addressed by the European Commission as meaning the use of tools and systems made available by Information and Communication Technology (ICT) to provide better public services for citizens and companies. These tools are already widely used by government bodies and also by companies, but e-governance involves much more than the use of tools. An effective e-governance also implies rethinking the organization and processes, as well as behavior change, so that public services can be provided more effectively to people who need them.

5. Conclusions

Effective collaboration between public authorities at all levels of government, as well as their collaboration with non-governmental actors, are essential to ensure good governance and sustained economic development. The public sector must provide fairly and efficiently essential services to meet citizens' needs, economic growth opportunities and facilitate citizen involvement and participation in public policy development to promote the participation and well-being of all people.

The increasing use of ICT, in particular for the possibilities of interoperability and the development of digital inclusion policies, has enabled public administrations to engage in transformation processes that aim to achieve a providing public services more efficient, more effective, more friendly, and last but not least, centered on citizens and businesses. This approach, also known as "transformational governance", has become a driving force for innovation and reducing the administrative burden in public administration, making full use of the possibilities offered by the latest technological developments. While anticipated capabilities are enormous, there are also challenges that need to be addressed carefully along with the implementation of such processes of transformation, in particular ensuring digital access for all citizens and taking into account the multidimensionality of interoperability, facilitating exchange of information. Through innovation and e-government, public administrations around the world can be more effective, can deliver better services and respond to demands of transparency and responsibility. E-governance can help governments implement environment-friendly policies and programs, effectively manage their natural resources, and boost economic growth and promote social inclusion, particularly of disadvantaged and vulnerable groups.

References

- Archmann, S., Castillo Iglesias, J.,(2010), *E-government – a driving force for innovation and efficiency in Public Administration*, EIPASCOPE, EIPA Maastricht
- Dănescu, T., Spătăceanu, O. (2008) *Guvernare Corporativă -principii aplicabile entităților listate pe o piață reglementată de capital*, Revista Audit Financiar Nr. 8, pp 31-38.
- Dragomir, V., (2012), *Guvernare Corporativă*, Suport de curs, Academia de Studii Economice, București.
- Dumitrașcu, M., Săvulescu, I., (2012) *Internal control and the impact on corporate governance in Romanian listed companies*, Journal of Eastern Europe Research in Business and Economics, 2012.

- Hawley, J.P. and Williams, A.T. (1996), *Corporate Governance in the United States: The Rise Of Fiduciary Capitalism*, Working Paper, Saint Mary's College of California, School of Economics and Business Administration.
- Morariu, A., Stoian, F., (2006) *Promovarea guvernantei corporative în realizarea unui management performant*, Revista Audit Financiar, Nr. 7, pp. 14-19.
- Răileanu, A., Dobroțeanu, C., Dobroțeanu, L., (2011) *Probleme de actualitate cu privire la măsurarea nivelului de guvernanta corporativă în România*, Revista Audit Financiar, nr 1, pp. 11-16.
- Shleifer, A., Vishny, R., (1997), A survey of corporate governance, *Journal of Finance*, Vol. 52, No.2, pp. 737-783.
- Spencer K.H., (2006), *The Internal Auditing Handbook*, Second Edition, John Wiley & Sons, New York
- Predescu, A., (2015) *Guvernanta corporativă în secolul vitezei*, Editura Economică, București.

INNOVATION ORIENTATION- ISSUES AND OPPORTUNITIES

Gavriluț Darie

Doctoral School of Economic Sciences, University of Oradea, Oradea, Romania

darie.gavrilut@gmail.com

Abstract: *In today's globalized environment, competition can arise from virtually all corners of the world. Enterprises must understand the importance of connecting the development of the strategic process with innovative and creative final outputs, in order to rise above competition and in order to enhance and promote research and development. Innovation and positive results arising from research and development activities do not occur by chance. Innovation should be managed, and strategies that have at their core the development of firm specific innovation capabilities and results are a must, regardless of region, country, sector and activity. A constant development of new ideas requires not only a state of constant transition from old to new, but also an increase in adaptability so as to be able to sustain these fast and dynamic rhythms of development.*

Key words: innovation; strategic innovation; knowledge; development.

JEL classification: O00; O30; O31, L19.

1. The pulse of innovation outcomes around the world

Each region of virtually any country develops in certain ways, based on factors pertaining to the socio-economic and cultural sphere, combined of course with access to resources. What is important to note here is that, willingly or unwillingly, regions develop not just through themselves, but contribute to the creation of regional innovation hubs and networks. Innovation in terms of business models does not and should not refer only to novel business models, models that are created from scratch. Rather, an approach that will promote the active seeking of ways in which already existing models can be improved and developed in terms of innovation should constantly be on the agenda of every company, be it brick-or-mortar or start-up (IBM Global Business Services, 2008). Even so, it is quite curious to see the how some regions and countries tend to be more developed from an innovation standpoint than others. Already in its seventh edition, the Bloomberg Innovation Index is aimed at answering and finding out exactly how innovative each country is. The study is shaped and grouped into several categories. In terms of research and development, the top 5 countries are: South Korea, Israel, Finland, Sweden and Japan; in terms of manufacturing, Switzerland ranks first at world level, followed by Ireland and Singapore; somewhat unsurprisingly, the most innovative companies as per this studies come from the United States, China and Japan; in terms of personnel working in the field of research (calculated as the number of individuals working in research and development per 1 million individuals), Finland, Iceland and Denmark are at the top of this chart, and, in respect to the number of patents produced and developed, South Korea, Japan and China hold the top 3 places (Bloomberg, 2015). Even if such reports are welcomed and offer vital information and insight into the paths and (to a certain extent) trajectories of the regions and countries encompassed in them, they do not manage to quantify, measure and give justice to the importance that government

and government rules and regulations pose upon country wide innovation. If in 2015, as an overall score, the first most innovative countries as per this report were South Korea, Japan and Germany, in 2019, the podium is held by South Korea, Germany and Finland (Bloomberg, 2019).

Of course, this is but one study. In order to obtain a wider view of the situation of country levels of innovation, more studies need to be developed, published and documented. Another such study aimed at assessing country innovation levels is the Global Innovation Index. Results of the 2019 edition of this study provide some interesting insight into the landscape of innovation as regards distribution and outcomes of innovation-based activities. Global research and development contributors now tend to be mid-level countries from Asian regions, thus proving that the growth rates for high levels economies are somewhat stagnant, being very close to a negative growth in terms of innovative output. We cannot assume that the more money is poured into innovation activities, the better the results will be, but, this study does pose emphasis on the fact that at times, smaller economies manage to achieve better with fewer resources (Cornell University, INSEAD, and WIPO, 2019). As opposed to other studies, the results are grouped in various ways, ranging from regional based assessment, to economic group assessment. In terms of high-level economies, the most innovative countries as per this study are Switzerland, Sweden and the United States; as regards upper-middle income economies, the 3 most innovative economies are China, Malaysia and Bulgaria. A key finding of this study is that, even though R&D expenditure tends to be following a decreasing path, innovation is not bound to high level companies and economies, and it occurs regardless of sector or domain. What should be a main focus of decision makers though is the following aspect: ways in which innovation can be shared and spread to neighboring regions, which is a key aspect to be accomplished in order to faster, and with higher increments, increase the levels of innovation (Cornell University, INSEAD, and WIPO, 2019). In the case of Romania, we see no evolution: in the last two years, Romania has held the 50th place in terms of country innovation levels (Cornell University, INSEAD, and WIPO, 2018) (Cornell University, INSEAD, and WIPO, 2019). Even if the results tend to be different from one study to the other, certain vital information can still be drawn. If country scores are consistent throughout various such studies, by logic we can assume that such countries do indeed poses and deploy high levels of innovative and creative output.

2. Research review

In order to achieve an any result in terms of innovative and creative output, companies should base their decision on several factors. As proposed by Anderson and Markides, factors such as affordability, availability, awareness and acceptance are vital both when trying to “push” and “pull” innovation onto and from the market (Anderson & Markides, 2007). Their work somewhat adds and contributes even more to the successful application of the big “C” and small “c” theory of Kaufman and Bghetto. Whereas big “C” refers to creative geniuses and it is the sort of creativity that that has outcomes that will be used and remembered for generations to come, little “c” refers to ordinary or day to day creativity (Kaufman & Beghetto, 2009). Such theories can be put in practice alone, but the biggest achievements will occur if a combination of such approaches occurs.

The importance of disseminating innovation to the right targeted group, at the right time, using appropriate resources does seem to be straightforward, but it has not always been the case. The start-up and entrepreneurial sector of each country is

advancing and evolving at a much more accelerated pace than in recent years. It is important to arrive at the desired results, and not to waste resources on apparent innovative outcomes. Fangqi Xu and Tudor Rickards, having understood the importance that creativity plays in any business, proposed 3 guidelines of creative management and foundations for an innovative strategy deployment: the “universality” guideline (this refers to the fact that creativity lies within all employees of an enterprise, their potential being the one that has to be harnessed in order to unlock such innovative outcomes), the “enrichment/development” guideline (stipulating that in certain conditions that favor the development of the employees, they will have the ability of turning potential/hidden creativity into actual creativity), and the “environment” guideline (which refers to traits, elements of the surrounding environment that will contribute to the evolution and practice of creativity) (Fangqi & Rickards, 2007).

As regards their own development strategies, firms, decision makers and legislative authorities need to carefully think about what kind of strategic choices they make regarding innovation and R&D: they can either choose an offensive business model and strategy (they are the ones that push innovation on the market and are the first to introduce new ideas, services and products) or defensive strategy (they await for other competitors on the market so as to eliminate several uncertainties that might arise from the launching of a new product), and thus, start-ups can adopt one of the following strategies: imitative strategy, dependent strategy, or an opportunistic strategy (Miles & Snow, 1978). The speed at which start-ups adapt both to internal and external factors has to at least be maintained (ideally, this speed of adaptation should increase), but in the same time, firms need to make sure that they retain the essence of their core business model and that the evaluation of risk as regards a new strategy could allow for measures to be taken so as to minimize said risk with minimum effort and costs (Cohen & Levinthal, 1990).

3. Conclusion

As mentioned previously, today’s business world is under the mark of globalization, and speed of adapting, innovating and integrating are essential for every company. Everything is under constant change and modification, and innovation surely is at the core of any positive change, both in the long and short term. Higher and better organizational integration and flexibility, faster decision making, higher adaptability, efficient internal and external communication processes and sources, increased profits and higher societal impact, all of these can be attained by deploying and developing a clear innovation-based strategy. Start-ups, enterprises and countries alike are affected by both internal and external factors. Whereas the internal structure (company profile) sets forth norms, actions, rules, structures that are to be taken and undertaken, the external facet is concerned with ways in which a start-up will align to external factors and forces, both from within the same market, but also from outside one’s own market (Casadesus-Masanell & Heilbron, 2015). Even though norming a certain activity is of vital importance, it should not occur at the expense of creativity and innovation. Modern business models cannot and should not be used as a way to diminish or decrease innovation returns. It is important to note that country profiles determine to a certain extent the profiles of the companies within a specific country. At national levels, innovation should be acted upon both from a top-bottom, but also from a bottom-top approach. The importance of government influence upon innovation levels is vital, but we cannot yet accurately assess the impact of such factors. This should be a key focus of future research. Ways of integrating country wide innovation policies, so

as to develop regional innovation output and capabilities are equally important both for national development, but also for the increase of regional capabilities. The development of innovation arising from enterprises will result in improved competitiveness levels, lowering of development costs, positively disrupting markets, and it will further nurture the open source or collaborative culture of companies and countries.

References

- Anderson, J., Markides, C., (2007) Strategic Innovation at the Base of the Pyramid. *MIT Sloan Management Review*, Cambridge, MA, 49(1), pp. 83-88.
- Bloomberg (2015) The Bloomberg Innovation Index, s.l.: Bloomberg.
- Bloomberg (2019) These Are the World's Most Innovative Countries, [Online], Available: <https://www.bloomberg.com/news/articles/2019-01-22/germany-nearly-catches-korea-as-innovation-champ-u-s-rebounds> [6 November 2019].
- Casadesus-Masanell, R., Heilbron, J., (2015) The Business Model: Nature and Benefits, Boston: Harvard Business School Strategy Unit Working Paper No. 15-089, May 2015.
- Cohen, W., Levinthal, D., (1990) Absorptive Capacity: A New Perspective on Learning and Innovation, *Administrative Science Quarterly*, Volume 35, pp. 128-152.
- Cornell University, INSEAD, and WIPO (2018) The Global Innovation Index 2018: Energizing the World with Innovation, Ithaca, Fontainebleau, and Geneva: Cornell University, INSEAD, and WIPO.
- Cornell University, INSEAD, and WIPO (2019) The Global Innovation Index 2019: Creating Healthy Lives—The Future of Medical Innovation, Ithaca, Fontainebleau, and Geneva: Cornell University, INSEAD, and WIPO.
- Fangqi, X., Rickards, T. (2007) Creative Management: A Predicted Development from Research into Creativity and Management, *Creativity and Innovation Management Journal*, 16(3).
- IBM Global Business Services (2008) The Enterprise of the Future: The Global CEO Study 2008, s.l.: IBM.
- Kaufman, J. C., Beghetto, R. A. (2009) Beyond Big and Little: The Four C Model of Creativity, *Review of General Psychology*, 13(1), pp. 1-12.
- Miles, R., Snow, C., (1978) *Organizational Strategy, Structure, and Process*, New York: McGraw-Hill.

EDUCATION AS AN ECONOMIC DEVELOPMENT TOOL: INVESTIGATION INTO CURRENT SCHOOL-UNIVERSITY PRACTICES FOR INITIAL TEACHER TRAINING IN MYANMAR

Khin Khin Thant Sin

Eötvös Loránd University (*Faculty of Education and Psychology, Doctoral School of Education*), Budapest, Hungary

khinthant5@gmail.com

Abstract: Education is a major component of the economic development of the country. Collaboration between schools and universities is an essential element in teacher education systems for the purpose of knowledge sharing and dissemination. Noticing the essence of that, this article outlines the problem area of the formal partnership between schools and university for initial teacher education in Myanmar. The aim of the study is to investigate the current collaboration practices of universities and schools and to highlight “partnership” as the tool for the overall development of the education system of the country. A qualitative method is applied through interviewing nine participants and observation to one specific school where a group of student teachers did their practical teaching with mentor teachers. Results showed that partnership is mainly taken for administrative purposes and there is lack of trust between partners. Interview findings and observation also proved that the student teachers and mentor teachers are competent in their own teaching skills but they are in a separated world in the implementation of teaching-learning process and reluctant to share their experiences during practical teaching period.

Keywords: School-university partnership; collaboration; mentoring; Initial teacher education; practical teaching

JEL classification: I25

1. Introduction

Teacher education, especially initial teacher education, has been a major concern since the quality of teacher education is crucial in determining the future of the country economic development. According to (Grudnoff et al., 2017), initial teacher education is under criticism for not being able to prepare student teachers. Even in the advanced teacher education system in the world, like US, teacher education is urgent needs of change in the system of teacher education (Zeichner et al., 2015). The practicum and the mentoring are the two activities which are connected and also effective approach in bringing real workplace experiences for student teachers. This is also the collaboration of between the universities and schools for the training of student teachers in their teaching and learning.

1.1. School-University Collaboration

The collaboration between the teacher training institutions and the schools are essential for the training of prospective teachers. Through collaboration, the universities can investigate the teaching-learning situation and problems of schools. Schools can get up-to-date

teaching methods through collaboration. The student teachers can also learn both from university and the schools. Knowledge-sharing as well as daily practices in schools and

universities could be improved through collaboration between the two organizations (Cochran-Smith and Lytle, n.d.). This is the triangle collaboration between the schools, the

universities and the student teachers. Globally, teacher education is in need of re-innovating through collaboration between partners.

According to Tsui et al. (2009), criticism related with the quality of teacher education programs led to the establishment of the Holmes Group in 1987 in the United States, which is a consortium of deans and chief academic officers from major research universities

across the United States. Since then, school-university partnerships have become highly prioritized in educational sector in the United States (Tsui et al., 2009). According to the Tsui et al. (2009), United Kingdom and Australian are also considered the origin of this area. According to Halasz (2016), the cooperation between schools and universities are increasingly developing into the more advanced level.

1.2. Myanmar context

As a developing country, Myanmar is facing more challenges in its education system. As the country is in an ongoing process of building the democratic education, still at the beginning stage, the status of schools and universities is under pressure among the stressful criticism of the public. Nowadays in Myanmar, teacher education is considered as a major concern in reform area of education in order to improve and strengthen the whole teacher education (Walailak University and Ulla, 2018). However, one area, that is the collaboration between schools and university for initial teacher training, is needed to be considered as a major concern when comparing to other areas of education.

2. Methodology

2.1. Participants

Nine interviewees are included in this study. There are two teacher training universities in the country but only one is considered as the scope of the study. One school where student teachers do their practical teaching annually has also taken part in the study. As sample, one teacher educator (UT) from university of education who is in charge of organizing the practicum, six student teachers (ST), two mentor teachers (MT) from schools participated as interviewees. Observation is investigated at the school.

2.2. Sources and data analysis

Data sources included focus group interviews, formal and informal interviews and observation. Five student teachers were interviewed through focus group interviews. Then, one student teacher as the leader of practicum teaching and one teacher educator was interviewed informally by the researcher. The researcher visited to the school where this student and his group were doing practical teaching in one school for the observation and two mentor teachers from that school were interviewed through informal interviews. Data has been analyzed through forming of sub-categories, categories and themes through the interviews. *“The conversational interview offers maximum flexibility to pursue information in whatever direction appears to be*

appropriate, depending on what emerges from observing a particular setting or from talking with one or more individuals in that setting.” (Patton and Patton, 2002)

3. Findings

The findings of this research will be presented in three different areas (administrative procedures, closeness and trust) from the points of view of different partners (teacher educator, mentor teachers and student teachers) in the school-university partnership. The observation is analyzed through the interview coding categories to investigate the current school universities practices.

3.1. Partnership with a focus on administrative procedures

According to the interviews, the focus and concept of partnership for training initial teachers is lost among the partners. The focus of partnership favors more on administrative issues and procedures rather than student teachers learning with the support of teacher educators and mentor teachers as these quotation shows:

“It is done by head of this methodology department first. We arrange the schools assignment and reported to head of department” (UT).

“The student teachers came to schools and meet the headmaster, first. Then headmaster calls us as dean teachers to give instruction what to teach during these two weeks” (MTs).

3.2. Closeness between partners

When the two communities cross the boundaries, there may be some challenges in establishing partnerships. Without mutual understanding and mutual respect, the successful partnership couldn't be built. The interview results showed that there is no close partnership among partners, especially in the case of student teachers and mentor teachers.

“When they (STs) come, we showed which chapter to teach during these weeks. Then we told if they have any questions for that, they can ask me. But mostly, they do it themselves.” (MT)

“The teachers told us to come and ask if we want some questions about lessons to teach. But we are in separate room. We discussed it among ourselves” (ST)

3.3. Trust

One of the issues that limit collaboration between partners is lack of trust.

“The period the student teachers come is the most important part of the lesson. So, the lesson has full with valuable concepts. So, I am afraid to give the whole class to them” (MT).

“I am teaching Myanmar Language. You know, Myanmar language has so many deep meaning that the students can't understand easily. But I see, the mentor teacher is teaching very quickly every lesson. She didn't even explain the concept. So I didn't ask her about the lessons how to teach” (ST).

4. Conclusion and Recommendation

According to the results, the collaboration between schools and universities in Myanmar has been found out as “the emerging status” of partnership which is needed to build trust and actual collaboration between partners. If there is actual collaboration between schools and university for teacher education, it is sure that this kind of

partnership as an essential part of quality education will help for the overall economic development of the country.

References

- Cochran-Smith, M., Lytle, S.L., n.d. *The Teacher Research Movement: A Decade Later* 11.
- Grudnoff, L., Haigh, M., Mackisack, V., 2017. Re-envisioning and reinvigorating school–university practicum partnerships. *Asia-Pacific Journal of Teacher Education* 45, 180–193. <https://doi.org/10.1080/1359866X.2016.1201043>
- Halasz, G. (2016b). *School-University Partnership for effective teacher learning: Issues Paper for the seminar co-hosted by ELTE Doctoral School of Education and Miskolc-Hejőkeresztúr KIP Regional Methodological Centre*
- Patton, M.Q., Patton, M.Q., 2002. *Qualitative research and evaluation methods*, 3 ed. ed. Sage Publications, Thousand Oaks, Calif.
- Tsui, A., Edwards, G., Lopez-Real, F.J., Kwan, T., 2009. *Learning in school-university partnership: sociocultural perspectives*. Routledge, New York.
- Walailak University, Ulla, M., 2018. In-service Teachers' Training: The Case of University Teachers in Yangon, Myanmar. *AJTE* 43, 66–77. <https://doi.org/10.14221/ajte.2018v43n1.4>
- Zeichner, K., Payne, K.A., Brayko, K., 2015. Democratizing Teacher Education. *Journal of Teacher Education* 66, 122–135. <https://doi.org/10.1177/0022487114560908>

FACTORS INFLUENCING AGING OF POPULATION

Hajnalka Barna

Doctoral School of Economic Sciences, Faculty of Economic Sciences, University of Oradea, Oradea, Romania

barnahajnalka.h@gmail.com

Abstract: *Demographic aging phenomenon has both positive and negative social, economic, political, cultural, individual, psychological causes and effects. Governments worldwide started to become aware of the challenges caused by the aging of population, and started to develop strategies and national policies in order to face these challenges. Aging population has some specific characteristics, needs and expectations, representing valuable potential or actual workforce/volunteers, potential or actual consumers of different specific products and services, who can contribute to economic development. Aging population has different effects on local, regional, national and global economies, but also economies can have impact on the demographic aging phenomenon. In order to prepare economies to be able to respond to the challenges caused by aging population, it is necessary to reveal those factors which influence the aging phenomenon. The present paper identifies the main categories of these factors, and enumerates those, which have impact on the aging population phenomenon. It also emphasizes the need of changing the perspective regarding the challenges caused by aging population, as these challenges can be viewed not just in a negative way, but also in a positive way, too.*

Keywords: demographic aging; demographic evolution; economic evolution; aging population; factors influencing aging of population; elderly economy.

JEL classification: J11; J14; J18.

1. Introduction

Demographic trends worldwide show an increasing percentage of elderly people (generally considered over 65 years) and decreasing percentage of young people (especially of those under 15 years), reason for while specialists consider that these demographic aging trends can lead to different social, economic, etc. problems (Ștefănescu, 2010).

Demographic aging phenomenon creates challenges for national governments, international and global organisations, and local/regional/national/global economies. Aging population can cause imbalances in the workforce market, in the social security systems, in the healthcare systems; can have impact on the economic development etc.

Governments all over the world became aware of the trends related to aging population, and started to develop national strategies and policies in order to face the different challenges caused by this phenomenon.

Also companies from different industries realised, that elderly people can become valuable consumers of specific products and services designed for their special needs and expectations, so they started to view older generations as their target market. These companies consider demographic aging as a business opportunity and try to fructify it.

Generally specialists consider that aging population has negative social, economic, etc. impacts, being concerned of the effects of this phenomenon, but we want to emphasize that we can consider that there can be founded positive impacts and opportunities, too.

Economies depend on value creation, and elderly people can contribute to this value creation as specialized and experienced human resource, and as entrepreneurs.

Most countries have imposed retirement ages, when elderly people leave the workforce market, and become retired. But most elderly people can be retained on the workforce market; can be motivated to remain economically active, not just by extending the retirement ages, but also by facilitating the process of remaining active workforce. Elderly people can be valuable volunteers, and can offer their services in the households, in order to help younger generations to remain on the workforce market. Elderly people can contribute to economic development also as consumers, as they have specific needs and expectations, which can be fulfilled by special products and services developed and offered for this generation by different companies. The number of elderly tourists depends on healthy life expectancy, financial possibilities, and spare time. Elderly people can become interested in computers and internet, in the new opportunities offered by their online skills, becoming senior citizens online or silver surfers.

2. Concepts, theoretical background and statistics related to aging population

In order to discuss the factors which influence aging of the population it is important to define what elderly people and aging population means. Elderly people generally are considered those individuals who have over 65 years (old people being considered those over 65 years and very old people being considered those over 85 years) (Eurostat, 2017). Among the generally accepted characteristics of elderly people we can find the followings: retired, with different diseases and poor health conditions, dependent on family members and/or social security system services (Eurostat, 2017 and Ștefănescu, 2010). But not all elderly people can be described as above, as many of them have relatively good health; are fit physically, psychically and mentally; are active in the workforce market; are engaged in voluntary activities, offer family support activities and housekeeping activities. As a result they can be considered as potentially or actually valuable human resources, socially and economically active and value generating individuals.

The concept of the population aging from demographic point of view can be defined as follows: *“Population aging refers to changes in the age composition of a population such that there is an increase in the proportion of older persons”* (Land & Lamb, 2017).

Aging population is caused mainly by increasing life expectancy and lower birth rate (Ștefănescu, 2010). World Health Organisation (WHO) defines life expectancy at birth as follows: *“Life expectancy at birth reflects the overall mortality level of population. It summarizes the mortality pattern that prevails across all age groups in a given year – children and adolescents, adults and the elderly”* (WHO, 2017). WHO offers a definition for birth rate, too: *“The crude birth rate is the annual number of live births per 1,000 population.”* (WHO, 2019).

Life expectancy is increasing worldwide. In 2016 life expectancy at global level was 72 years, existing differences between women (74.2 years) and men (69.8 years) (WHO, 2017). In 2015 life expectancy in the European Union (EU-28) was 80.6 years (Eurostat, 2017) and in 2018 it was 81 years (Comisia Europeană, 2018). Life expectancy in Romania in 2018 was 75.3 years (Comisia Europeană, 2018), which is under the average life expectancy in the European Union. In Romania there is a difference between the life expectancy of women (which in 2018 was 79.1 years), and the life expectancy of men (which in 2018 was 71.7 years) (Comisia Europeană, 2018).

In Romania the retirement age for women is 62 years, for men is 65 years.

Based on the results of a research made by EY, in Romanian cities the number of aging people has increased with more than 51% in the last 20 years, in 2018 this number was more than 1 million (Tabac, 2019). The percentage of youth under 15 years decreased, in 2018 representing 14.8% of the population (Tabac, 2019).

In 2014 in Romania the number of people over 65 years surpassed the number of youth under 15 years (Tabac, 2019).

It seems that not only the rural area, but also the urban area in Romania faces the phenomenon of the aging of people, and from this reason the management of the cities should develop solutions in order to attract and maintain young people, as they can attract new investments and can offer human resources for the workforce market (Tabac, 2019). Greater percentage of elderly among the population of the cities can cause difficulties in the social security system and in the health system (Tabac, 2019). Different researchers and professionals developed theories and models in order to handle economically the challenges caused by aging population, among these we can find some related to psychology of ages, or socio-economic solutions, etc. (Ștefănescu, 2010).

3. Main factors influencing aging of population worldwide

As life expectancy at a global level is increasing, and the birth rate is decreasing, the phenomenon of demographic aging of the population became an issue concerning most governments, as aging population has an impact on economy (for example can lead to increased unemployment, increased need for social and health services, etc.).

For this reason it is important to identify those factors which can influence demographic aging of the population, and to find solutions to manage them in order to face the challenges caused by the aging population.

Based on literature review regarding the issue of aging population, we can identify the following main factors which can have influence on the demographic aging phenomenon: economic factors, socio-cultural factors, political factors, psychological factors, educational factors (Ștefănescu, 2010).

3.1. Economic factors

Among economic factors which influence aging of population we can mention: increased life standards, progresses in medical and pharmaceutical fields and technologies, technological developments which make human work easier, etc. As a result life expectancy increases, and more individuals live more, in better health and financial conditions. (Ștefănescu, 2010)

3.2. Socio-cultural factors

Regarding socio-cultural factors we can mention, that some communities and religions promote family values, and value high birth rates in families. (Ștefănescu, 2010)

Cultures based on community values consider elderly people as individuals who deserve respect, and whose advices are useful for the communities and the whole society. In cultures based on individualistic values, elderly people can be motivated to develop themselves professionally and personally to remain successful members of the society and economy. (Ștefănescu, 2010)

3.3. Political factors

Governments started to become aware of the demographic aging phenomenon's effects, and in order to face the different challenges related to the trend of aging population make efforts to develop national strategies and policies. These policies are oriented towards family support offered for young people, and social and healthcare support for the aging people. (Ștefănescu, 2010)

Some governments realised the importance of emphasizing the support offered to elderly people in order to remain active and valuable workforce, entrepreneurs, specialists who can share their knowledge and valuable experience to younger generations. Governments could offer support to the development of those industries, companies and organizations which offer different products and services according to the special needs and expectancies of elderly people.

3.4. Psychological factors

From psychological point of view different studies show that the psychological development of individuals has changed in the last period, as adolescence is prolonged, and aging happens later than before. In case of elderly people not the biological age, but the functional age becomes more important. Functional age reflects the physical/psychological/mental health of the individual. Modern individuals pay more attention for self-care, healthy lifestyles and diets, engagement in different sport and spare time activities, balanced work and family life. These lead to increased life expectancy, as a result more elderly people not just remain alive for a longer period, but their quality of life remain at higher standards, too. (Ștefănescu, 2010)

3.5. Educational factors

Educational organizations can contribute through lifelong learning programs to motivate elderly people to develop themselves in different fields, in order to remain active members of society and economy. (Ștefănescu, 2010)

Conclusion

Aging of population has impact on economic and social evolution worldwide, so it is important to analyse those factors, which lead to this phenomenon and trend, in order to overcome the challenges related to these aspects. Although generally researchers, scientists and professionals emphasize only the negative effects, we should be aware that aging of population can be viewed as a challenge for the society and economy, and it has also positive economic, social, political, cultural, psychological and individual effects.

References

- Comisia Europeană (CE) (2018) *Raport 2018: Care este starea de sănătate a românilor*, [Online] Available: https://ec.europa.eu/romania/news/20181123_raport_2018_stare_de_sanatate_ue_romania_ro [30 Oct 2019].
- Eurostat (2017) *People in the EU – statistics on an aging society*, [Online] Available: https://ec.europa.eu/eurostat/statistics-explained/index.php/People_in_the_EU_-_statistics_on_an_ageing_society [30 Oct 2019].
- Land, K.C. and Lamb, V.L. (2017) *International Encyclopedia of Public Health*, 2nd Edition [Online] Available: <https://www.sciencedirect.com/topics/social-sciences/ageing-population> [30 Oct 2019].
- Ștefănescu, F. (2010) *Evoluții economice și demografice în spațiul european*, Oradea: Editura Universității din Oradea.
- Tabac, A. (2019) “Numărul de locuitori de 65 de ani și peste din orașele României a crescut cu 51% în ultimii 20 de ani, depășind 1 milion în 2018”, *EY Building a better working world*, [Online] Available: <https://www.eyromania.ro/studii-and-articole/numrul-de-locuitori-de-65-de-ani-i-peste-din-oraele-romaniei-a-crescut-cu-51-in-ultimii-20-de-ani-depind-1-milion-in-2018new-study-page/> [1 Nov 2019].
- World Health Organisation (WHO) (2017) *Global Health Observatory (GHO) data – Life expectancy*, [Online] Available: https://www.who.int/gho/mortality_burden_disease/life_tables/situation_trends_text/en/ [30 Oct 2019].
- World Health Organisation (WHO) (2019) *Global Health Observatory (GHO) data – Crude birth rate*, [Online] Available: <https://www.who.int/uat-portal/indicator-metadata-registry/imr-details/2978> [30 Oct 2019].

QUALITY OF LIFE - METHODOLOGICAL CHALLENGES

Mihaela Cazacu, Emilia Țițan

Bucharest University of Economic Studies, Bucharest, Romania

czc.mihaela@gmail.com

emilia_titan@yahoo.com

Abstract: *Today we are living in a society where we are surrounded by data and it started to be a real challenge to extract useful information. The way how people define their standards, perceptions and values influence the quality of their lives and the skills to interpret data around us is huge. The quality of life is a social phenomenon, an important link of the statistical system in any country, and for its measurement all general statistical methods are used: from systematization and data grouping to the calculation of parameters. Beyond data and algorithms, what counts is the result, while the journey from data to knowledge is full of challenges. Main purpose of this article is to present techniques, tips, and resources for scientific data analysis used in quality of life.*

Keywords: quality of life; step by step approach; data analytics; subjective quality of life; objective quality of life.

JEL classification: C18; C51; C82; I31; J17; O22; R15.

1. Introduction

Industrialization has brought major demographic changes. Increased longevity can be seen in all industrialized countries. Natality rate is steadily decreasing, but at the same time improving the quality of medical services has led to increased life expectancy. Quality of life analysis first requires a clearer definition of this concept. The concept of quality of life was launched in the 1960s by North American society. It has started from the fact that any economic growth must not be an end in itself but, first, it must be a means to create better living conditions to meet the needs of a particular community. There is often confusion between living standards and quality of life; the two concepts, although at first glance seem to be confusing, are still different due to the scope. It has also been established the link between household incomes and the consumer price index, how much the population spends on these agrifood products, the average annual per capita consumption, and the average daily dietary intake of calories and nutrients, all of which are presented in a succinct form through tables and graphs. Romania is far from the developed European countries in terms of average wage on the economy. While in our country the average wage barely exceeds 200 euros, in countries like Austria or Germany, it is around 5,700 euros, in Spain 3,800 euros and in Italy 3,200 euros. The economic crisis in 2007-2009 had a beneficial effect on the quality of life in Romania. According to the data obtained before the crisis, the quality of life characterized by the initially established indicators was much weaker than after the crisis where it felt a slight improvement. Also, considering the index of health and a quality of life index in 2012, the last year of analysis Romania's position within the European Union is found in the third quadrant, which means a low quality of life and at the same time and poor population health. In this situation are all ex-communist or

developing countries: Bulgaria, Slovakia, Hungary, Poland, Lithuania and Latvia (Andrei T., Ec. Ilie D., 2016).

2. Conceptual delimitations about quality of life

There are two ways to evaluate the quality of life: subjective and objective approaches. Between those two approaches there are a lot of debates which one is better and bring the most valuable information in social research. Quantitative methods corresponding to objective approach had been developed a lot and in present are dominating social sciences research landscape.

2.1. Objective approach

This approach is based more on general indicators delivered by public institutions and NGOs. Those indicators are offering a global evaluation about quality of life. The methods used in data analysis permit the global overview for individuals and their characteristics and are not taking into consideration how huge is data that needs to be manipulated and make easier the visualization using data visualizing techniques. In this way one can look for similarities and differences between individuals, one can perform classifications and ordinations of many, one can analyse the relationships between characteristics. Among the best techniques are: principal component analysis, correspondence analysis, correlation analysis, cluster analysis, determinant analysis.

The standard of living is a characteristic objective, because it can be achieved in certain parameters. Based on this change, science and technique, the parameters taken into account (natural environments, social sharing, education, health, politics, etc.) and which undergo a series of changes, giving it in this regard the standard of living a social- historic character.

The standard of living can be assessed on the basis of two distinct elements:

1. The state of human life as it is at one point;
2. The existence of a set of criteria (values) in relation to which the state of life is evaluated as good or less good.

2.2 Subjective approach

It tries to identify the most important elements in establishing the standard of living of the individual. These measurements are much more personal since they are based on individuals' assessments of the quality of their lives. The subjective appreciation descends to the level of the individual or of the communities with a certain specific (geographic, cultural, of the standard of living).

The quality of life can be measured by taking into account a number of dimensions of life including: family and friends, service, neighbours, community, health and education and the spiritual. The way in which these dimensions of life are perceived is strongly marked by 3 aspects, namely: demographic characteristics, socio-economic conditions and cultural specificity. The assessment of the quality of life, very often, is subjective, because each attaches a greater or lesser importance to a certain evaluation criterion depending on the system of each needs and aspirations. Although the list of evaluation criteria is universal, the concrete configuration of each criterion is different.

Analytically, the quality of life can be defined as the set of economic, social, cultural, political, etc. conditions in which people live, the content and nature of their activities, the characteristics of the social relations and processes they participate in, the goods and services they have access to. , adopted consumption patterns, lifestyle, assessment of the degree to which the circumstances and the results correspond to the expectations of the population, the subjective states of satisfaction or dissatisfaction, etc.

3. Methods and techniques

Data analytics is an ongoing process in all research projects. Planning what kinds of analyses you're going to perform with your data regarding data quality topic is a critical part of designing your experiments. If you skip this step, you might find yourself with insufficient data to draw a meaningful conclusion. Global data is expected to increase from 2 zeta bytes in 2010 to 175 zeta bytes in 2025. This increase will bring a lot of challenges especially in social sciences where naturally, for those interested in human behaviour, this bounty of personal data is irresistible: shifting thoughts and personal opinions in social media, relationship and connections, purchasing habits, flavor of new online services even in medical system for aging population, pictures or videos. Data analytics is often used wide to cover any data-driven decision making. This term covers two aspects (Sandra Slutz, Kenneth L. Hess):

- The data analysis being undertaken uses a high volume of data from a variety of sources including structured, semi-structured, unstructured or even incomplete data;
- The volume of the data sets within the data analysis and velocity with which they need to be analysed has outpaced the current abilities of standard business intelligence tools and methods of analysis.

Data analytics offers new tools and techniques to address these data challenges. These tools and techniques allow us to delve deeper into data, potentially delivering important insights. In the case of data quality, important insights about the effectiveness and efficiency of services and governmental policies may be realised through this analysis (Sarawagi, S., 2000). Furthermore, the tools allow this analysis to occur more quickly and, generally, the value of the output from a data analytics project increases as the analysis approaches real-time. Also, other benefits from data manipulation is that many industry have identified the practical business opportunities that big data analysis presents including the optimisation of operations, the delivery of better, more informed decision making tools, the management and mitigation of financial and other risks, and the development of new business models all of which will lead to an increase in productivity and innovation (Fayyad, U. M, 1996).

4. Conclusions

In quality of life area, in order to conclude, understanding data and leveraging it has become a significant part of the analysis project, data being the fuel for this complex analysis part. But before understanding and analyzing data we must make sure that data is correct and well-structured else we will fail to fulfill the objective. The most important steps for analysis to have a structured approach to plan a research project are: quality of life domain understanding and research objectives definition, data preparation and feature extraction model building considering proper techniques, model evaluation by computing p-value to determine whether a field is required in the analysis process or not and one of the most important, modelling data. In this last step, we can proceed with replacement of statistical insignificant fields, checking outliers and define mechanism to handle it or exclude and also checking for relationships and correlations.

References

Fayyad, U. M (1996) *Data mining and knowledge discovery: making sense out of data*, IEEE Expert, Vol. 11 No. 5.

Sarawagi, S. (2000) *Integrating Association Rule Mining with Relational Database Systems: Alternatives and Implications*. Data Mining and Knowledge Discovery, Vol. 4, p 89–125.

Prof.univ.dr Andrei Tudorel, Ec. Ilie Dumitrescu (2016) *Dincolo de PIB – O provocare larg asumată. Cum îi facem față?*, Institutul National de Statistică.

Sandra Slutz, Kenneth L. Hess, *Data Analysis for Advanced Science Projects*.

[Online] Available: <https://www.sciencebuddies.org/science-fair-projects/competitions/data-analysis-for-advanced-science-projects> [01 Nov 2019].

[Online] Stata, <https://www.statista.com/statistics/871513/worldwide-data-created/> [27 Sep 2019].

***EUROSTAT, http://epp.eurostat.ec.europa.eu/statistics_explained/index.php/Unemployment_statistics [20 Sep 2019].

***INSSE, <http://statistici.insse.ro/shop/?page=tempo2&lang=ro&context=15>, [20 Sep 2019].

THE LEGAL AND INSTITUTIONAL FRAMEWORK OF THE ECONOMIC RELATIONS BETWEEN THE EUROPEAN UNION AND THE RUSSIAN FEDERATION

Livia Cebotari

Economics and International Affairs Doctoral School, Bucharest University of Economic Studies, Bucharest, Romania

cebotari.livia.2014@gmail.com

Abstract: *Since 1994, the relations European Union-Russia have oscillated between partnership and confrontation. There were times when the economic cooperation developed, followed by a decreased interaction between the two great power, when the relations became more tense and the level of mutual distrust escalated. Annexation of Crimea by the Russian Federation in the spring of 2014 and its consequences have shown that the commercial and economic ties between the European Union and Russia, which were on an ascending trend, had not fully developed into a strategic partnership based on the principle of equal rights and mutual respect. This article analyses the legal and institutional framework of the economic cooperation between the European Union and the Russian Federation in order to understand what has influenced the cooling of bilateral relations.*

Keywords: *European Union; Russian Federation; economic relations; partnership.*

JEL classification: *F50; F51.*

1. Introduction

Over the last three decades, the cooperation between the European Union (EU) and the Russian Federation has taken shape as a result of the collapse of the Soviet Union and the enlargement of the Community through the redefinition of the interests of the EU member states and the modification of the priorities in terms of external relations. As a result of the eastward expansion of the European Union in 2004 and 2007, Russia drew closer and closer to the EU, becoming its largest neighbour. The geographical proximity and the economic dependence result in the existence of a bilateral dialogue between the EU and Russia. Over time, the dialogue between the European Union and the Russian Federation has evolved, in the context of the changes in the international environment, in response to the incentives offered by it. However, at the moment, the relations between the two great powers are affected by the tension created by the annexation of Crimea by the Russian Federation in the spring of 2014 and its consequences. The conflict in the Ukraine has called into question the foundations on which the cooperation between the EU and Russia has been built up to now. Ukrainian crisis and its effects have shown that the commercial and economic ties between the European Union and Russia, which were on an ascending trend, had not fully developed into a strategic partnership based on the principle of equal rights and mutual respect.

2. Approaches and Levels of Analysis in EU-Russia relations

In her article, *The Level-of-Analysis Problem in the Past, Present and Future of EU-Russia Relations* (2011), Tatiana Romanova presents three approaches to the study of the evolution of international relations: structural, institutional and thematic. The structural approach concerns the analysis of the relations between the Russian Federation and the EU, as well as the relations between Russia and each EU member state. Starting with the establishment of the Eurasian Economic Union (EAEU) in 2014, this approach includes, in addition to the analysis of the relations mentioned above, the examination of the cooperation between the EU and EAEU, as well as the relations between each EU member state and the EAEU. The thematic approach refers to goals, values, tasks, implementation instruments and mechanisms. In turn, the institutional approach includes three levels of analysis/interaction: the intergovernmental level represents the traditional contacts between heads of state, prime ministers and ministers; the transgovernmental level represents the interaction between the medium- and low-ranking officials of the respective countries; and the transnational level represents the dialogue between nongovernmental actors, such as companies, NGOs and epistemic communities (experts in various fields). Based on the institutional approach described above, this article analyses the legal framework of the economic relations between the EU and Russia.

3. EU-Russia economic relations through the prism of the institutional approach

The first document that laid the foundation for the cooperation between Western Europe and the Union of Soviet Socialist Republics (USSR) was the Trade and Cooperation Agreement, concluded in December 1989 in Brussels. Even though the signing of this agreement was considered a real progress in terms of the cooperation between the European Community (EEC) and the USSR, it was short-lived. The coup which took place in Moscow in August of 1991, that was initially intended to stop Mikhail Gorbachev from granting political and economic independence to the soviet socialist republics and to prevent the collapse of the Soviet Union, generated a completely opposite result than expected. It was the events in August 1991 that accelerated the break-up of the Union. In 1991, Russia, as the successor of the USSR, inherited the relations with the European Community (the Trade and Cooperation Agreement). However, it was obvious that this document did not reflect the new reality. Thus, in June 1994, on the Island of Corfu in Greece, the President of the Russian Federation, Boris Yeltsin, twelve high representatives of each EU member state and the President of the European Commission, Jacques Delors, signed the Partnership and Cooperation Agreement (PCA).

At the moment, the legal basis of the economic relations between the European Union and the Russian Federation is found in the two primary EU treaties, i.e. in Title V of the Treaty on European Union (TEU), which contains general provisions on external action; in articles 206-207, with regard to trade, and in articles 216-219, regulating international agreements, of the Treaty on the Functioning of the European Union (TFEU). However, the main pillar that the economic cooperation between the two powers is based on is the Partnership and Cooperation Agreement, that entered into force in December 1997. In accordance with article 106 of the PCA, it was concluded for an initial period of 10 years, after which it shall be automatically renewed year by year.

From an institutional point of view, in accordance with articles 7, 90, 91, the PCA created, first of all, intergovernmental structures, i.e. biannual presidential summits, meetings between the Russian President, the head of the European Commission and

the President of the European Council, and created the Cooperation Council (replaced by the Permanent Partnership Council in 2003), which consisted of the Russian ministers, EU commissioners and/or ministers from the member states that were to meet at least once a year and whenever necessary. In addition, article 92 of the PCA attempted to regulate the cooperation on a transgovernmental level by creating a Cooperation Committee consisting of representatives of the Russian Government, representatives of the Council of the European Union and of the European Commission, at senior civil servant level. In 2014, as a result of the conflict in the Ukraine, its activity was suspended.

From time to time, for the purpose of presenting their objectives and vision, as well as in order to reiterate the strategic partnership, the European Union and the Russian Federation have drawn up various diplomatic documents. In 1999, the Common Strategy of the European Union on Russia was drawn up. It reiterated the importance of the strategic partnership and outlined the objectives that the EU and Russia should pursue for a better cooperation. In turn, Russia drew up a similar document entitled "Medium-Term Strategy for the Development of Relations between the Russian Federation and the EU (2000-2010)", through which it expressed a different vision than the EU.

The St. Petersburg summit in May 2003 marked the transition from a cooperation based on "common values" between the European Union and the Russian Federation to a more pragmatic project. At the summit the parties stated their intention of strengthening the strategic partnership and agreed to develop their cooperation through a new institutional structure – the creation of four "common spaces" in the following fields: economy; freedom, security, justice; external security; science and education. Over the next two years, the specific agendas for each space, entitled roadmaps, were drawn up. These medium-term instruments were approved at the EU-Russia summit that took place in Moscow in 2005. The common economic space aimed to achieve a better compatibility between the EU and Russian economies in order to stimulate investments and trade. Its creation was seen by Russia and the EU as one of the main strategic directions of the cooperation between the two powers.

Another instrument used for the development of the bilateral economic cooperation is dialogue. The first was the Energy Dialogue launched in 2000 at the intergovernmental level and subsequently developed at the transgovernmental and transnational level (Romanova, 2014). Shortly thereafter, this form of interaction expanded, allowing the transgovernmental and, partially, the transnational cooperation to cover most of the areas of interaction between Russia and the EU in terms of economy. However, of the three functions specific to the cooperation on a transgovernmental level: the exchange of information, the approximation of the laws and the monitoring of the implementation of the decisions made, only the first was accomplished in all the dialogues. Peter Van Elsuwege (2012) describes the two instruments: dialogue and road maps, as "soft law" mechanisms, which certainly have their merits but cannot conceal the lack of legally binding norms or create strong relations.

Starting with 2000, two points of reference can be distinguished in the analysis of the relations between the EU and Russia. Even though neither is legally binding, they have given rise to the hope of the possibility of a change in the direction of the development of the bilateral cooperation and the revival of the "strategic partnership" between the European Union and Russia. The first is the initiative formulated and approved at the St. Petersburg summit in May 2003 with regard to the creation of four common spaces and the second is the Partnership for Modernisation launched at the EU-Russia summit that took place in 2010 at Rostov-on-Don. In addition, new collaboration opportunities arose when Russia joined the World Trade Organisation (WTO) in

August 2012. However, neither of the two initiatives mentioned above has been realised so far and the events in 2014 and their consequences make it impossible for them to be realised anytime soon. The conflict in the Ukraine has resulted in the suspension of all the discussions and actions, revealing a deep discrepancy between the long-term objectives and values of the parties. The first wave of restrictive measures adopted by the European Union against Russia in March 2014 affected the relations existing on an intergovernmental level, suspending the biannual presidential summits as well as the discussions and steps with regard to a new partnership and cooperation agreement. The relations developed on a transgovernmental and a transnational level should have maintained the economic cooperation between the EU and Russia, but since they were not really strong enough, they were the first to be affected.

4. Limits of the EU-Russia Legal and Institutional Framework

As a result of the changes occurring in the EU and in Russia over time, more and more experts in the field of international relations, as well as politicians, have said that the PCA is outdated and needs to be revised. The PCA reflects the spirit of the 1990s and the specific geopolitical context after the dissolution of the Soviet Union and has not been adapted to the new challenges of the 21st century.

In article 1 of the PCA, the Russian Federation is referred to as a “a country with an economy in transition”, a phrase which is no longer current, since, in 2002, the EU officially recognized Russia’s status as a market economy and Russia subsequently became a member of the WTO. In addition, several areas are regulated in a rather vague manner. Even though the agreement acknowledges the fact that the approximation of the laws of Russia towards the laws of the European Union is an important condition for strengthening the economic links between the parties, article 55 par. (1) of the PCA only states that the Russian Federation “shall endeavour to ensure that its legislation be gradually made compatible with that of the Community (now Union)”, without specifying the expected results or the sanction in case of the failure to fulfil the obligation.

The main weakness of the institutional framework is that it’s impossible to adopt legally binding decisions. In essence, the development of the cooperation between the EU and Russia has been based on specific bilateral agreements or statements with a purely political value. The limits of the PCA, as a legal basis for the relations between the European Union and the Russian Federation, are clear when one considers the disputes occurring in 2005 with regard to the export of Polish meat to Russia. In the opinion of Poland, the embargo imposed by the Russian Federation violated article 19 of the PCA, that precludes the use of veterinary and phytosanitary restrictions in the trade between the parties in an arbitrary and unjustified manner and that the applied ban was too severe considering the identified irregularities. In accordance with article 101, any disputes with regard to the application or interpretation of the agreement may be referred to the Cooperation Council, which may settle the dispute by means of a recommendation. Such recommendations are not binding upon the Parties and have no legal effect. The procedural rules provided in the PCA were not considered when resolving the dispute and, anyway, they could not have resolved the problem. In this case, it was decided to improve the political dialogue between Russia and Poland and, as a result, the ban on importing meat and other Polish products in Russia was lifted in 2007.

After this dispute, the European Union and the Russian Federation concluded a few Memoranda of Understanding on Sanitary and Phytosanitary measures and food

safety requirements. However, the drafting of such diplomatic documents could not preclude the occurrence of other commercial disputes. In 2011, Russia banned the import of all fresh vegetables from the EU when it found that cucumbers contaminated with the *Escherichia coli* bacteria had been imported from Germany. Another example is Russia's banning of all imports of cattle, sheep and pigs as a result of the detection of the Schmallenberg virus in Germany, Great Britain, Belgium, the Netherlands and France. Thus, the situations presented above show how the presence of infections or just the failure to fulfil certain requirements with regard to foodstuffs that occurred in a member state or a region of the EU can affect all the trade flows of the agri-food sector between the Russian Federation and the entire European Union.

5. Conclusions

Since 1994, the relations between the EU and Russia have oscillated between partnership and confrontation. There were times when the economic cooperation developed, followed by a decreased interaction between the two great power, when the relations became more tense and the level of mutual distrust escalated. That's why Russian economist Yury Borko (2014) metaphorically described this relationship by using the phrase "Two for the Seesaw".

The Ukrainian crisis and its consequences have accentuated the fragility of the relations between the EU and Russia, which, during all the previous years, have stood on clay legs (Romanova, 2016). Even though, starting with 2000, the consolidation of the cooperation between the two powers was attempted, the crisis that broke out in the spring of 2014 proved that, all this time, the two had only grown closer formally, not practically. The occurrence of visible differences in terms of their objectives and conceptual values affected the interaction on a transgovernmental and transnational level first of all. Despite the suspension of the bilateral meetings, on an intergovernmental level, the dialogue between the high representatives from Russia and the EU member states continues to exist, but its format has already changed. The business environment and the medium-ranking officials from the EU and Russia have proven to be the most affected. Amongst the effects generated by the sanctions imposed against Russia, in terms of transnational cooperation, is the disturbance of the trade flows, the interruption of the financing and the suspension of certain joint projects. The crisis in the Ukraine has clearly highlighted the necessity of developing an algorithm for the resumption of the economic relations between the EU and Russia, defined as the "cohabitation of the European elephant and the Russian bear" by Michael Emerson (2001). This algorithm must ensure that the interests of the parties and of their neighbouring countries are respected and it must not be a source of problems, but an instrument meant to consolidate and develop the relations between the EU and Russia.

References

- 'Agreement on Partnership and Cooperation establishing a partnership between the European Communities and their Member States, of one part, and the Russian Federation, of the other part' (PCA) (1997), *Official Journal of the European Union (European Communities)*, L 327/3, [Online], Available: [https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:21997A1128\(01\)&from=EN](https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:21997A1128(01)&from=EN) [9 October 2019].
- Borko, Y. (2014) 'Russia – the EU: Has Strategic Partnership become a reality?', *Contemporary Europe*, Moscow: Institute of Europe, Russian Academy of Science No. 2 (58), pp. 19-30.

Busygina, I. (2013) 'Russia – European Union Relations: Current Status and Development Prospects: Analytical Report' in I. S. Ivanov (ed.) Russia – European Union: Potential for Partnership, Moscow: Russian International Affairs Council, No. 11, pp. 47-92.

Damen, M (2019), 'Russia', Fact Sheets on the European Union-2019, European Parliament, [Online], Available: http://www.europarl.europa.eu/ftu/pdf/en/FTU_5.6.3.pdf, [10 October 2019].

Emerson, M. (2001) *The Elephant and the Bear. The European Union, Russia and their Near Abroad*, CEPS, Brussels.

'Joint Statement on the Partnership for Modernisation, EU-Russia Summit, 31 May – 1 June 2010' (2010), [Online], Available: https://europa.eu/rapid/press-release_PRES-10-154_en.htm, [20 October 2019].

Romanova, T. (2011) *The Level-of-Analysis Problem in the Past, Present and Future of*

EU – Russia Relations, Tartu: Centre for EU – Russia Studies.

Romanova, T. (2016) 'Institutional Levels of Analysis and the Evolution of Russia – EU Relations: Some Theoretical and Practical Aspects', *International Organisations Research Journal*, Moscow: National Research University Higher School of Economics, Vol.11, pp. 224-248.

'The European Union and the Russian', Federation European External Action Service (EEAS), [Online], Available: https://eeas.europa.eu/headquarters/headquarters-homepage/35939/european-uni-on-and-russian-federation_en, [18 October 2019].

Van Elsuwege, P. (2012) *Towards a Modernisation of EU-Russia Legal Relations?*, Tartu: Centre for EU – Russia Studies.

SUBJECTIVE WELL- BEING AND HAPPYNESS - DEFINING ELEMENTS OF LIFE QUALITY

Ioana Ciorbagiu, Iulia Platona (Elenes)

West University of Timisoara, Faculty of Economics and Business Administration, Timisoara, Romania

c_ioana_v@yahoo.com

iulia.elenes74@e-uvv.ro

iuliapladona@gmail.com

Abstract: *The concept of life quality is a complex one that embodies subjective elements, such as the well-being of individuals in society, health and personal quality of life, as well as material elements that regard life conditions, balance between personal and private life. Life quality indicates the extent to which life is good for the individuals and is often defined by life satisfaction, as an expression of the cognitive side and happiness, as an expression of the affective side of subjective well-being. Following these two indicators (using the Eurofound results from 2012 and 2016), we outline the differences between satisfaction levels of life in the European countries.*

Keywords: life quality; life satisfaction; happiness; subjective well-being.

JEL classification: D60; I31.

1. Developing the concept of subjective well-being, components and measures

The concept of life quality was introduced in the U.S.A., in the 1950s, as a political slogan and extended, in the 1970s, to a social and individual level, integrating over time different indicators such as: happiness, of philosophical origins, welfare, of economic and political nature, subjective well-being, of sociological and psychological origins, physical health of medical origins and mental health of psychiatric origins. (Montreuil, Tazopoulou and Truelle, 2009, p.135). Life quality refers to the well-being of individuals in society and indicates the extent to which life is good for them.

The economic, psychological and sociological literature highlights the multidimensionality of the concept of life quality, embodying subjective elements, such as personal well-being, health and personal quality of life, as well as material elements that regard life conditions (dwelling, poverty risk and material deprivation), balance between professional and private life etc.

There are a multitude of approaches in measuring life quality, subjective well-being or happiness worldwide, including through demographical dimensions (marital status, gender, age), educational or occupational ones. Subjective well-being refers to mental elements and represents the way in which individuals perceive their own life, in other words their own evaluations regarding their life.

2. National differences of subjective well-being and happiness

Life quality is a concept that identifies a series of dimensions of human existence as being essential for a well-shaped human life; this is inevitably relative or normative from the cultural point of view, but reflects, in this case, the European Unions' wide value sand political objectives. (Euro found, 2018, p.8). The multidimensional approach

of life quality encompasses individual and societal perspectives, combining objective and subjective indicators (Euro found, 2003).

Life satisfaction is a complex concept, and this term is often used interchangeable with happiness, even if the two terms reflect separate conceptions. Life satisfaction means the evaluation of one’s life as a whole, not just the evaluation of one s level of happiness. Even though there are small differences between these two definitions, the basic idea is the same: life satisfaction refers to the general feeling of the individual regarding his/her life. In other words, life satisfaction is a global evaluation rather than an evaluation based on a specific moment of a specific domain. Even if related, happiness and satisfaction are not the same thing. Happiness is an immediate experience, in time, even if pleasant, it finally passes. O healthy life includes moments of happiness but only happiness does not lead to a fulfilled and satisfied life.

The concepts of happiness and life satisfaction, which are central (fundamental) for subjective well-being, are different, the first one refers to the emotional aspects and the second to the cognitive evaluation of life as a whole. (Eurofound, 2003) The indicators used here to outline the reflection over the life quality situation (subjective well-being and happiness) in Europe have as a source the Eurofound investigations regarding life quality from 2011/2012 and 2016. The questions regarding life satisfaction and happiness are presented as separate aspects in the questionnaire, even though the distinction can be less emphasized in different cultures and languages. All, especially satisfaction worldwide, offer a summary indicator of the extent to which the individual’s expectations are met.

In EQLS, happiness is measured by the answer to the question how happy they are. The European Quality of Life Survey (EQLS) of Eurofound, measures, at the European level, both personal satisfaction and happiness on a scale from 1 to 10. The results of the examinations from 2011/2012 and 2016 indicate that, in the European Union (as a whole) data has remained relatively constant, the medium recorded result being 7,0-7,1, with big differences between countries. At a national level, in 2016, the best situated are the north vest countries: Finland, Denmark, Luxemburg, which have a performance score of over 8,0,followed by Sweden, Holland, Great Britain, Ireland (7,9). Values over the U.E. average are in Germany, France, Belgium, Poland, Portugal, Croatia (7,4 -7.5).

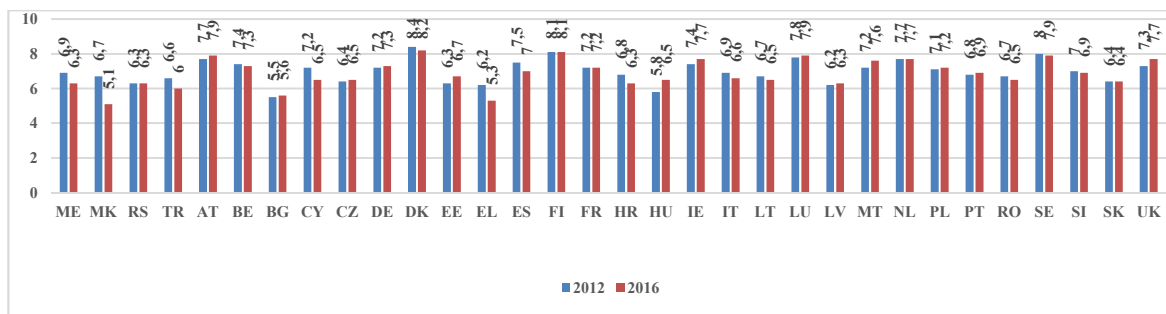


Figure1: Personal satisfaction (general satisfaction with life, average score), 2012 and 2016

Source: Eurofound, EQLS, 2018

The lowest scores are recorded, in 2016, in community countries such as Bulgaria (6,4) and Greece (6,0; decreasing from 2012 when the average score was 6,5, after a prolonged crisis), but also in some of the candidate countries (Macedonia -6,1; Turkey-

6,2). Relatively low levels can also be found in Italy or in the Czech Republic (6,8). Very close to the score of 7, 0 are countries as: Romania, Hungary, Lithuania, Latvia, Serbia (7,0), Slovakia, Cyprus (7,1), Estonia, Slovenia (7,2), Spain, Montenegro (7,3). Graph number two also indicates that on a large European space, the indicator did not evolve spectacular in 2016 compared to 2012, personal satisfaction remain in gal most the same or slightly increasing. Only Greece, Macedonia and Turkey are the countries where personal satisfaction has met an important rebound. (of approximately 10%)

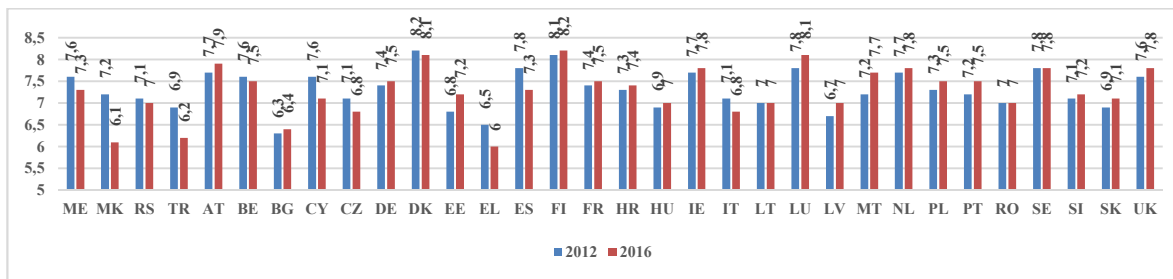


Figure 2: Happiness life as a whole average scores, 2012 and 2016
 Source: Eurofound, EQLS, 2018

The highest differences between countries are observable in the analysis by age group. In most countries there is a manifestation of the decrease of the indicator's score with the increase of age, and a significant increase medium score compared to the total average from the 18-24 age group. Compared to personal satisfaction, the question related to happiness, formulated more evaluative, is more emotionally controlled and less determined by the standard of living (Eurofound 2009). Comparative to the level of satisfaction with their life as a whole, individuals tend to evaluate their level of happiness as being higher. However, the two indicators are highly correlated (0,65) and the country model for happiness is similar to the one for life satisfaction. The happiness level in the E.U. was calculated in average 7,4-7,5. Similar to life satisfaction, the highest levels for happiness are recorded in Denmark (8,2) and the lowest in Bulgaria (6,3).

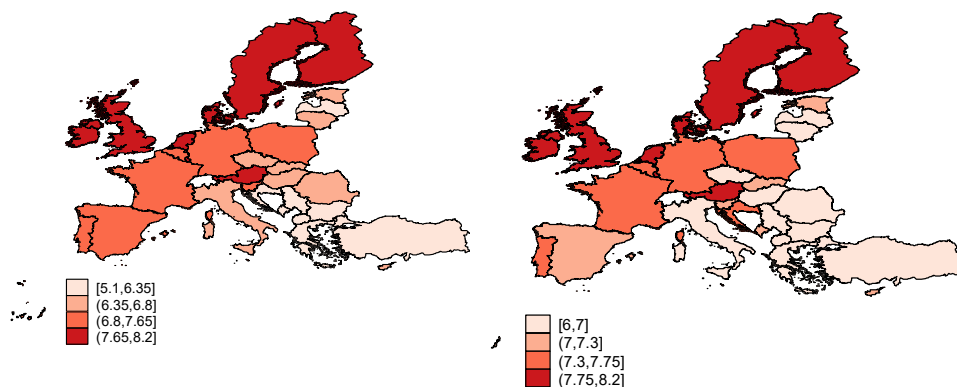


Figure3: National differences of subjective well-being, 2016, average score:
a)Personal satisfaction and b)Happiness
Source: Processed in Stata

As to what concerns personal satisfaction, the biggest differences are recorded in east and central European countries, both the candidate and some of the member countries of the E.U. In Greece, the averages core of personal satisfaction amongst the population of over 50-65 is approximately 11%lower than the average of the whole population. Overall in the E.U. life satisfaction and happiness remain constant, significant modification being observed as to what regards country level. Thus, between 2003 and 2007, life satisfaction and happiness have increased in many countries from Eastern Europe, because between 2007 and 2011, because of the economical crisis, a decrease in the score of these two definitive concepts for the perception of life quality has occurred, especially in the countries affected by recession which adopted austerity measures. Both indicators have decreased in Croatia, Cyprus, Greece, Italy, Spain and happiness in the Czech Republic. The scores were higher for both dimensions in Austria, Estonia, Malta, Great Britain and Hungary, in Ireland there was an observable plus for life satisfaction, happiness having a higher score in Latvia, Poland, Portugal and Slovakia.

3. Economical performance and well-being

The importance of the influence of different circumstances of life upon general satisfaction was the subject different search studies. Figure 4 indicates a measure of personal life satisfaction according to the Gallup World Poll, measured through the variable *life ladder*. Data is obtained for the period 2010-2017, in the first graph for 35 countries and in the second only for the E.U. member states.

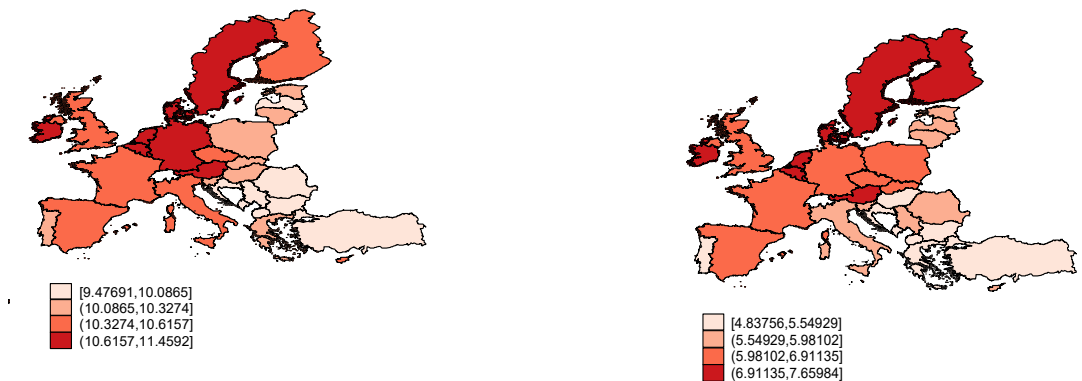


Figure4: Differences in a) GDP per capita and b) the *life ladder* score in European countries (35 countries), 2016
Source: Processed in Stata

Evidence of data from time series for developed countries, transition countries and less developed countries, confirm the fact that short term fluctuation in happiness and income are positively associated, but the long term tendencies for happiness and

income are not related. (Easterlin, 2013). The measurement of satisfaction (life ladder) is highly correlated with GDP per capita ($p=0,76$ for the 35 countries in Europe and $0,71$ for the European Union countries). (Figure 5)

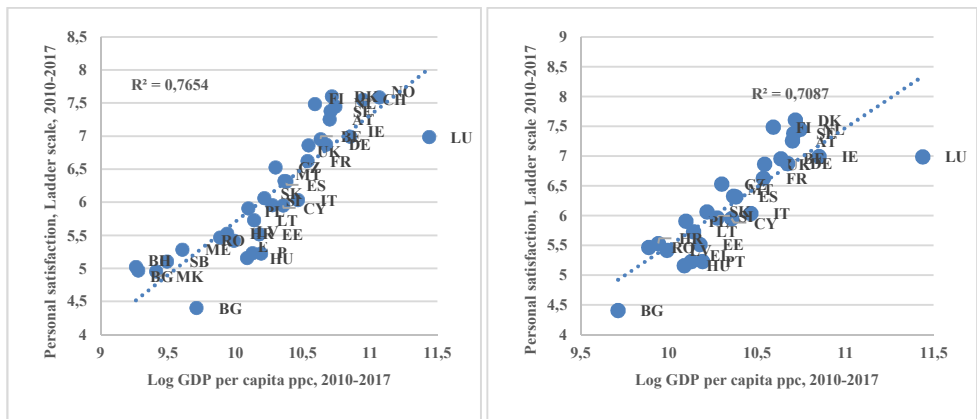


Figure 5: Relevant association between GDP per capita and life ladder, for the group of 35 countries and of the UE member states, 2016
Source: Processed on the basis of Gallup data

Results suggest just a long term relationship between national income and the average level of individuals' life satisfaction. Another research study in U.S.A. and Great Britain confirmed a small impact of income upon life satisfaction compared to other circumstances of life, such as age, income, gender, racial status (Blanchflower and Oswald, 2011). Furthermore, the correlation between the average satisfaction level pro country and the Gini coefficient, the most common measure of income inequality, was not confirmed. (Eurofound, 2015)

Conclusions

Researchers do not consider that the concept of well-being can be explained only with reference to GDP, but, on the contrary, that it has a multidimensional component reaching all the aspects of human life. That is why, the measuring instruments have a double nature, an objective one, including indicators that complement each other (GDP) and a subjective one, that refers to the way individuals refer to their happiness and life satisfaction.

References

Abdallah, S., Marks, N., Michaelson, J. Steuer, N. and Thompson, S. (2009) *The (Un) Happy Planet Index 2.0. Why Good Lives don't have to Cost the Earth*, Centre for Well-Being (NEF), 2009, London, UK.
 Blanchflower, D. G. and Oswald A. J. (2011) *International Happiness: A New View on the Measure of Performance*, [Academy of Management Perspectives Vol. 25, No. 1](#), pp. 6-22.
 Eurofound (2003). *Monitoring quality of life in Europe*, Publications Office of the European Union.

Eurofound (2009) *Second European Quality of Life Survey: Evaluating the quality of society and public services*, Publications Office of the European Union, Luxembourg.

Eurofound (2013) *Third European Quality of Life Survey – Quality of life in Europe: Subjective well-being*, Publications Office of the European Union, Luxembourg.

Eurofound (2015) *Sixth European Working Conditions Survey – Overview report*, Publications Office of the European Union, Luxembourg.

European Foundation for the Improvement of Living and Working Conditions (2018). *European Quality Life Survey 2016, 4th edition*. [data collection]. UK Data Service.

Gallup World Poll Database 2018. In *World Happiness Report 2018*, statistical annex.

INSTITUTIONS AND DIPLOMACY IN MIRCEA MALIȚA'S WORK

Cosmina-Ioana Drăgan-Codrean¹, Liana-Eugenia Meșter²

¹Doctoral School of Economic Sciences, Faculty of Economic Sciences, University of Oradea, Oradea, Romania

²Faculty of Economic Science, University of Oradea, Oradea, Romania

cosmina.codrean@yahoo.com

Imeșter@uoradea.ro

Abstract: *This paper presents the involvement of international organizations in the diplomatic mechanism in Mircea Malița's work. The development of the ideas presented in this paper will be carried out in a later paper. The multilateral negotiations were born as a result of the development of traditional diplomatic methods and the need to apply new negotiation techniques. Also, the extension of multilateral negotiations has influenced, since the nineteenth century, the founding of international organizations. The emergence of the institution of international organizations has been largely determined by the need to provide a stable and appropriate framework for the evolution of the relations between countries and to resolve issues of common interest. The cooperation between the states knew another dimension determined by the growth and development in areas such as: trade, economy, technology and technology, means of transport and communication. The development registered by these fields and not only, has contributed to the conclusion of contracts, treaties and conventions through negotiations between countries, negotiations carried out on a multilateral level.*

Keywords: multilateral negotiations; cooperation; diplomacy; international organizations.

JEL classification: F53; G20.

Premises

International organizations reflect general, universally valid features, based on two of humanity's main desires: on the one hand, ensuring peace and strengthening international security, and on the other, promoting cooperation between nations in different fields (Malița, 1970, p.312). From the economic point of view, the industrial revolution, marked the moment of new relations of production, development of relations and exchanges between countries. Despite the development of relations, a small number of countries called the "European Concert of Great Powers" participated in international meetings. The latter did not consider the possibility of small and medium-sized states participating in international discussions and conferences. Thus, it was considered imperative to set up international bodies. Within international bodies, it was intended that participation could be achieved by all nations, as well as in discussions and solving of general problems and each state should be able to ask, if needed, for support and advice in different problems or situations. In this sense, the establishment of the first international body took place at the end of the first world war under the name of the League of Nations, and the second international body, at the end of the second world war, under the name of the United Nations.

Thus, even if these "organizations have a technical character, diplomacy plays an

important role in the multilateral negotiations they facilitate, thus contributing to the affirmation of diplomacy through international organizations", thus emphasizing the role of diplomacy (Malița, 1970, p.315).

Diplomacy through international organizations is also the result of the development that took place during the modern era, a development that was clearly projected in the existing relations between states. Therefore, regardless of the field that has recognition and development, this is also reflected at the diplomatic level, including meetings, negotiations on topics of interest in various fields.

Assessments and findings

According to Malița (1970) in the work „Diplomacy. Schools and institutions”, following the analysis of the notion of international organization, it turns out that the characteristics that define international organizations can be highlighted.

The first characteristic refers to the fact that their members are the states (Malița, 1970, p.317). A good relationship between countries is determined and influenced by respecting the independence and sovereignty enjoyed by each state, respectively respecting the principles of international law.

International law, plus other principles and regulations, is the framework within which international organizations must operate. Therefore, in carrying out the activity international organizations must take into account the following criteria: "International organizations must not violate the sovereignty of the Member States, assume supranational powers or establish supranational or supranational bodies. The legal capacity of the international organizations, as subjects derived from international law, is dependent on the will of the states that created them and is limited by the provisions of the treaties by which they were born. International organizations cannot discuss or make decisions regarding the issues that are within the internal competence of the states, in accordance with the principles of sovereignty and non-interference in internal affairs. States have the right to participate equally in international organizations in carrying out their work and adopting their decisions. The decisions and recommendations of international organizations are not, in principle, legally binding. They shall become binding only to the extent that they are accepted by the Member States" (Malița, 1970, pp.318-319).

The second feature refers to the way in which international organizations were born. Conferences and meetings are the starting point by which international organizations are born (Malița, 1970, p.319). Within these conferences, a series of basic rules and principles are established regarding: the establishment of the organization, the structure, the way of carrying out the activity, its members and the functioning program etc. It is worth mentioning that several meetings or conferences are needed in order to decide on the establishment of an international organization.

The third characteristic of the international organization is derived from the permanence character which "refers, in particular, to the temporal aspect of the activity of the organization, which is continuous, without interruptions" (Malița, 1970, p. 320). Due to the limited time character of the conferences, they are different from the international organizations that have a continuous activity, that is to say they enjoy continuity.

Regarding the classification of international organizations, according to certain criteria, there is no generally accepted variant. On the other hand, according to their goals, „international organizations are divided into general and special organizations” (Malița, 1970, p.321).

Other criteria according to which international organizations can be classified are the following: „the object of the activity which can be, for example, political, military, economic, social, etc. Another criterion may be the radius of geographical action, which determines the general or regional character of international organizations” (Malița, 1970, p.322). The general character of international organizations it means that any country on the surface of the globe can be a member, and the regional character implies that this membership is only the states located in a certain geographical area.

Another criterion is "the possibility of states to become part of international organizations after they have been established. Thus, there are international organizations open and closed. Open international organizations are those that accept other states, and closed international organizations only accept the presence of the founding members or after a certain date” (Malița, 1970, p.322).

Thus, through the characteristics listed above, international organizations are characterized, but others can be added to them. The notion of international organization is a notion that is in a continuous transformation, the proof being its evolution from its beginnings to its present form.

Regardless of the context, the actions of the international organizations must respect the international law, that is to achieve their goals without jeopardizing international peace and security.

Conclusion

In conclusion, the cooperation between the states knew another dimension determined by the growth and development in areas such as: trade, economy, technology and technology, means of transport and communication. The development registered by these fields and not only, has contributed to the conclusion of contracts, treaties and conventions through negotiations between countries, negotiations carried out on a multilateral level. The international organizations are directly involved in the diplomatic mechanism. These represent a basic tool in the activities carried out in different fields, for example: economic, social, etc.

References

- Berinde, M. (2001) *Regionalism și multilateralism în comerțul internațional*, București: Editura Percomex.
- Berinde M., Dobrescu A., Rusu L. (2007) *Noile tipuri de contracte în relațiile economice internaționale*, București: Editura Niculescu.
- Berindei D. (1965) *Din începuturile diplomației românești moderne*, București: Editura Politică.
- Malița, M. (1970) *Diplomația. Școli și instituții*, București: Editura Didactică și Pedagogică.

TAX FRAUD: THEORETICAL GUIDELINES

Emil Guiaș, Codruța Mihaela Hăineală

Doctoral School of Economic Sciences, Faculty of Economic Sciences, University of Oradea, Oradea, Romania

guiasemil@gmail.com

codruța.mester@gmail.com

Abstract: *We are studying tax fraud in terms of understanding its determinants. Tax fraud is a problem of major importance in the world economy in general and the European economy in particular, due to its implications and its effects on the performance of an economy. Within the EU, the largest proportion is VAT fraud. The VAT system of the European Union has become vulnerable to organized fraud schemes. In recent years, these schemes have affected the services and imports of goods from third countries and may have changed the trade of goods between EU countries. The EU institutions and the Member States have presented several measures to address this problem, although some of them have placed a disproportionate burden on businesses. As its structure is quite limited, the European Union has developed influence on the bodies of the Member States responsible for combating this phenomenon.*

Key words: tax fraud, tax evasions; „ghost” companies; the intra-Community VAT system; tax obligations; money laundering.

JEL Classification: A14.

1. Introduction

Often, the existing tax rules cannot keep pace with the growing speed of the economy. This fact reminds us that the current international and national tax rules were mainly conceived at the beginning of the 20th century. Currently, there is an urgent need for the rules to be reformed so that international, European and national tax systems are adequate for the new economic, social and technological challenges of the 21st century. There is the general consensus that current tax systems and accounting methods they do not have the features necessary to keep up with these developments and to ensure that all market participants pay their fair share of taxes. In order for a phenomenon to be prevented and combated in an efficient manner, it is always very important for him to be known as deeply as possible. For this reason, we appreciate that in the present work we must present some theoretical benchmarks regarding committing such acts. Tax fraud is confined to the phenomenon of crime in the economic and business fields.

2. Notions of tax fraud

Tax fraud takes different forms between Member States. Fiscal fraud means the fraudulent deduction from tax return, payment of taxes or knowingly omitting the fulfillment of fiscal obligations within the deadlines established by the tax laws, or that

part of the amounts subject to taxation was knowingly hidden, either the insolvency was organized or prevented, by other illegal means, the payment of the tax.

Fraud involves two compulsory elements: a material element - a violation of the tax law and an intentional one - the desire to circumvent the tax.

Fight against evasion and tax fraud represents combating illegal acts, while the fight against tax avoidance deals with situations that exploit gaps in the law, a priori, within the limits of the law (unless they are considered illegal by the tax authorities or, finally, by the courts), but which contradict the spirit of the law. Fair taxation and the determined fight against tax fraud, tax evasion, and money laundering play a central role in creating a fair society and a strong economy, while defending the social contract and the rule of law. A fair and efficient tax system is essential for combating inequalities, not only by financing public spending to support social mobility, but also by reducing income inequalities.

Fiscal policy can have a major influence on employment decisions, on the levels of investments and on the readiness of the companies to expand. The most urgent priority is to reduce the tax gap resulting from tax fraud, tax evasion, and money laundering, as well as their impact on national budgets and the EU budget, to ensure a level playing field and fiscal fairness among all taxpayers and between them, by guaranteeing that fraud perpetrators do not have a competitive tax advantage over honest taxpayers.

Cash transactions remain a very high risk in terms of money laundering and tax evasion, including VAT fraud, despite the advantages it presents, such as accessibility and speed. A number of Member States have already introduced restrictions on cash payments.

Tax fraud and tax evasion lead to the loss of resources for the national budgets and the budget of the European Union.

The most common types of economic crimes and frauds reported in the last two years are misappropriation of assets, computer crime and consumer fraud, to which are added the frauds in purchases, fraudulent reporting, money laundering corruption.

Tax fraud manifests itself in many forms because it represents, in principle, everything that goes beyond the legal framework. Significant are the modalities of tax fraud by their nature:

- increase of tax-deductible expenses;
- the transfer of the tax base;
- methods of payment of the partners in the tax fraud regime;
- conducting activities without legal documents or not registering them in accounting;
- "ghost" companies are the most advanced form of tax fraud;
- organizing and conducting double accounting activities;
- failure to apply the tax law and incorrect calculation of taxes and duties due to the state.

The intra-Community VAT system has often been misused through a so-called intra-community fraud scheme with "ghost" companies (*missing trader intra-community fraud* – MTIC).

„Ghost” companies represent that legal entity - economic operator, non-existent in terms of commercial activity, registered in a fictitious headquarters or by moving the real headquarters to a fictitious headquarters. The company was created specifically for tax evasion (It is generally used for a single business).

Sometimes the goods don't even exist. The fraud scheme can be complicated even more when the ghost company sells the goods to a „buffer” dealer, from which some

might be honest, in order to make tracking them even more difficult. The revenue is transferred to companies registered in tax-heavens.

(https://www.eca.europa.eu/Lists/ECADocuments/SR15_24/SR_VAT_FRAUD_RO.pdf pag.12-13)

3.The development of the concept of tax fraud, proving the fraud

3.1. Proving the fraud. The necessity of objective proofs. Knowing the fraudulent character of operations.

From the sentence of January, the 12th 2006, the causes jointed C-354/03, C-355/03 and C-484/03. Optigen Ltd (C-354/03), Fulcrum Electronics Ltd (C-355/03) and Bond House Systems Ltd (C-484/03), (the 6th directive of VAT), emitted by CJUE, the 3rd Chamber, the following aspect emerge:

- It's against the European legislation for the financial organs of control to judge an operation conducted by a tax paying person considering the intentions of another person than the one in question.
- Each operation must be taken separately without considering the entire chain from which it is part of.
- The right of VAT deduction can't be refused unless it is proven the existence of a tax fraud, and only if the tax payer knew or ought to have known about that he or she was part of a financial fraud.

In this decision it is described the mechanism of a carousel fraud, specific to the operations from the sphere of VAT appliance. As a consequence, one can't sustain an accusation of financial fraud on the fact that the supplier hasn't paid the collected VAT to the state budget and the beneficiary of the operation has deducted the afferent VAT. As for the national practice, we notice the correct application of it by the High Court of Justice by the civil decision no.4063 from 30.10.2014.

3.2.The Notion of Abusive Practice. The Fulfilling of Formal Conditions. The Purpose of Gaining a financial advantage. Objective Elements from which the Existence of Fraud can be deduced.

From the decision of CJUE, The Great Chamber from February the 21st 2006, cause C-225/02 02Halifax plc, Leeds Permanent Development Services Ltd and County Wide Property Investments Ltd (the sixth Decision of VAT), we conclude that European Law is opposed to exerting the right to deduce the VAT that flows from an abusive practice. In order to be in the presence an abusive practice it is extremely necessary that the operations in cause to satisfy the formal conditions imposed by the European Law and that the associated National Law to generate a financial advantage that is contrary to those regulations.

Also, it must be obvious from a multitude of objective factors that the only purpose is that of gaining a financial advantage. In the situation in which an abusive practice is identified, it is necessary for the specific transactions to be redefined so that their economic and legal content can be revealed."

The first aspect that must be taken in consideration is the fact that not every reduction of the fiscal burden represents a fiscal fraud. This concept emerges from the British Judiciary Practice which states that every person has the right to organize their affairs, in the limits of the law, so that he or she would pay to the state the smallest taxes possible.

By this decision, the CJUE mentions the fact that in order to be considered a fraud, two conditions must be present: the objective and the subjective conditions. By this decision the Court lays the foundation for the theory of abuse of right in the fiscal law. It

is important to mention that the burden of proof falls exclusively in the task of the fiscal authority. Also, the fiscal authority has the obligation to restate the financial operations in order to reflect the real economic content. The fiscal authority in Romania has laid in the fiscal practice the preliminary Decision C-225/02 Halifax and others by the Article 11 from the Fiscal Code. As for the practice of Romanian Courts concerning the Preliminary Decision Halifax we refer to the Decision of the High Court of Justice no. 4768 from 11.12.2014.

4. Conclusion

At the proposal of the European Commission, starting with 2011 several initiatives were taken in order to intensify the fight against fraud and corruption that affects the public money in the EU.

Following the concretization of the efforts in fighting the fraud, in October 2017 the European Parliament has approved the establishment of the institution "The European Prosecutor". Inside this institution that will focus on the fraud with European Money, there will be several Romanian Prosecutors designated by Romania. The establishment of the institution also means minimal limits of sanctions that the states of the EU will have to adopt. In the case of a conviction, following the investigations of the European Prosecutor, all of the stolen money will be sequestered.

References

Communications from the Commission to the European Parliament, The Council, The European Economic and Social Committee, And The Committee of The Regions and The Court of Auditors (SEC (2011) 791 final)

http://ec.europa.eu/atwork/programmes/index_en.htm.

European Commission 2009 Informative note on fraud indicators for FEDR, FSE and FC [Online], Available:

http://ec.europa.eu/regional_policy/sources/docoffic/cocof/2009/cocof_09_0003_00_ro.pdf [15 Nov 2017].

European Commission - Press release State of Union 2018: A strengthened European Parliament to fight cross-border terrorism http://europa.eu/rapid/press-release_IP-18-5682_ro.htm [12 Sept 2018].

Communications from the Commission to the European Parliament, The Council, The European Economic and Social Committee, And The Committee of The Regions and The Court of Auditors – Antifraud Strategy.

https://ec.europa.eu/anti-fraud/sites/antifraud/files/docs/ec_antifraud_strategy_en.pdf

European Court of Auditors, Special Report, Combating Intra-Community VAT Fraud, https://www.eca.europa.eu/Lists/ECADocuments/SR15_24/SR_VAT_FRAUD_RO.pdf.

The Court of Justice of the European Union, Case-law, Search form [Online] <http://curia.europa.eu/juris/recherche.jsf?language=ro>.

High Court of Cassations and Justice of Romania, Case-law, Search jurisprudence [Online] <https://www.scj.ro/736/Search-jurisprudence>.

OLAF 2016 Report [Online], [24 June 2011].

https://ec.europa.eu/anti-fraud/sites/antifraud/files/olaf_report_2016_en.pdf [15 Nov 2017].

Law 227/2015, Tax Code.

Law 241/2005, to prevent and combat tax evasion.

Law 656/2002, for the prevention and sanctioning of money laundering.

Vidreanu, T. and Ioan, C. (2019). *Tax Fraud*, Editor Juridical Universe, Bucharest p.25, pp. 28, pp. 29, pp. 34.

GDPR PRINCIPLES IN THE EUROPEAN FUNDS CONTEXT

Codruța Mihaela Hăineală, Emil Gheorghe Guiaș

Doctoral School of Economic Sciences, Faculty of Economic Sciences, University of Oradea, Oradea, Romania

codruta.haineala@gmail.com

guiasemil@gmail.com

Abstract: *In the management of the European funds, to use the personal data of the members of the target group, of the representatives of the economic operators who submit tenders in the procurement procedures as well as of the personnel involved in the implementation of the project, is an important component. General Data Protection Regulation (EU) 2016/679 (GDPR) has become applicable in Romania since May 25, 2018. It replaces the previous legal framework of the EU dating back to 1995, and sets general rules that apply to any kind of processing of personal data, as well as specific rules for applying the processing of special categories of personal data such as ethnic origin for members of the target group, criminal convictions and offenses in the procurement or health procedures for the personnel employed in the project. This article aims to provide an overview of the application of the GDPR rules in project management so that the main actors can adapt their practices in order to comply with the European legislation in the field of personal data protection.*

Keywords: European Funds; Privacy; General Data Protection Regulation (GDPR); European Union law; Personal data; Special categories of personal data.

JEL classification: A14.

1. Introduction

Almost one year and six months after the entry into force of General Data Protection Regulation (EU) 2016/679 (GDPR), there are still many operators of personal data for which the applicability of this normative act has unclear elements and, as a result, they do not apply all the provisions properly. In order to better understand the usefulness of observing the GDPR principles, it is necessary to synthesize relevant information regarding the protection of personal data. Thus, the processing of personal data is closely linked to the protection of individuals, and therefore aims at a fundamental right. According to Article 8 paragraph 1 of the Charter of Fundamental Rights of the European Union and Article 16 paragraph 1 of the Treaty on the Functioning of the European Union, any person has the right to the protection of personal data concerning him. Directive 95/46 / EC was transposed internally in Romania by Law no. 677/2001 for the protection of persons regarding the processing of personal data and the free movement of these data. Although Directive 95/46 / EC introduced robust mechanisms for the protection of personal data, it was outdated. Technology development, the emergence of Google, Facebook, LinkedIn allow data processing in ways that could not be foreseen in 1995 when Directive 95/46 / EC was adopted. Therefore, General Data Protection Regulation (EU) 2016/679 is a natural consequence of these results of technological progress. In contrast to the Directive,

Regulation (EU) 679/2016 (the "Regulation", "GDPR" or "GDPR") applies directly in all Member States from 25 May 2018.

The Regulation defines personal data as "any information about an identified or identifiable natural person (" the data subject "); an identifiable natural person is a person who can be identified, directly or indirectly, in particular by reference to an identification element, such as a name, identification number, location data, an online identifier, or to one or more many specific elements, specific to its physical, physiological, genetic, psychological, economic, cultural or social identity ". According to Opinion 4/2007 of the Working Group Art. 29, adopted on June 20, 2017, personal information will take into account the following pillars: any information / which refers to / an identified / or identifiable natural person.

In the management of the European funded projects, the collection and exchange of personal data increased significantly in 2014-2020 framework compared to previous multiannual financial frameworks. Applications such as [mysmis.ro](#), [fonduri-ue.ro](#), [afir.info.ro](#) or [e-licitatie.ro](#) used by the beneficiaries of European funds, public or private, either in relation to the Management Authorities for project implementation, or in relation to economic operators in the procurement procedures, use personal data at an unprecedented level. Therefore, all projects must comply with the seven principles of the processing of personal data: legality, fairness and transparency; purpose limitations; minimizing data; accuracy; storage limitations; integrity and confidentiality; responsibility.

2.Processing of personal data at the Management Authorities level

According to General Data Protection Regulation (EU) 2016/679 (GDPR), the operator is the entity that establishes the purpose and the means of data processing and its obligations are to inform the data subject, to ensure that the processing is legal and that the rights of the person are respected. Starting from the recommendation that each institution decide its quality: operator, authorized person or both, between the operator and the authorized person, there should be a contract to ensure data protection. As a result of this recommendation, in the financing contracts between the Management Authorities and beneficiaries, mentions are found regarding the processing, storage and archiving of the data obtained during the execution of the financing contract. In the contracts related to the Regional Operational Program, the processing, storage and archiving of data is performed with the purpose of verifying the implementation mode and / or complying with the contractual clauses and the national and European legislation. In the contracts related to the Human Capital Operational Program, the personal data are used for the purpose of achieving the project objectives, for statistical purposes and those of the target group can only be processed and published, for the information of the public, only with their prior information on the purpose of processing and publication. and obtaining their consent. However, although the recommendation to have contractual provisions regarding personal data is respected, there are regulations that are not respected.

First of all, the provisions regarding the personal data contained in the financing contracts are not complete because either the duration of the processing is not clearly specified, formulations such as "throughout the term and after termination" of the financing contract do not represent a clear information on the duration, either the type of personal data is not provided, or it does not establish the categories of data subjects (except for the Human Capital Operational Program), or it does not establish the obligations of the operator but only the rights. Also, the contract omits the provisions by which the authorized person processes personal data only on the basis of the

operator's instructions and ensures that the persons authorized to process the personal data have committed to respecting the confidentiality.

A second important aspect omitted by the Management Authorities is that the information and obtaining the consent must be carried out, according to art. 13, section 2, chapter III of Regulation no. 679/2016, when collecting personal data and not later.

Analysing the official websites of the Management Authorities from the point of view of information, knowing that it must address the answers to the questions: Who processes it; What types of data do they process?; To whom are they transmitted? For what purposes? During what period are they stored?, and they must have a concise, transparent, intelligible and easily accessible form, we have identified the following:

- mysmis.ro application does not inform about the types of data they process and what is the period for which they are stored.
- The official site of the Management Authority of the Regional Operational Program has an information in English, a vague enumeration of the personal data they process, an announcement that the data can be transferred but without specifying to whom and without specifying storage duration.
- The funduri-ue.ro site does not contain any information regarding the protection of personal data.
- The site e-licitatie.ro does not contain any information regarding the protection of personal data.
- The afir.info.ro site contains all the information elements in accordance with the GDPR.

3.Processing of personal data at the beneficiary's level

Analysing the forms made available by the Management Authorities, we found that in order to prepare the signing of the financing contract, a consent form regarding the processing of personal data is sent to the beneficiary. In the situation of the Regional Operational Program, the consent is given only by the legal representative although in the application for financing, personal data are also requested for the contact person, the project manager and the other members of the project team, if at the time of submission of the request for funding they are known. In the situation of the National Rural Development Program, the legal representative of the beneficiary must sign a "Declaration regarding the processing of personal data", which is in fact an information, as it results from the document, because it is mentioned that "it informs the data subjects whose data are collected on how these data are used and on the rights that are due to them." In the second example, it is no longer an incomplete consent but a complete lack of consent.

4.Personal data processing at the target group level

The processing of personal data at the target group level is made unequivocally within the Human Capital Operational Program. For this purpose, the Management Authority has made available to the beneficiaries the form Annex 8 Target group registration form containing the following note:" Note: By completing and signing this form you express your consent regarding the use and processing of personal data.

Your personal data, recorded / collected in the course of the POCU projects, are not processed for any purpose other than those mentioned in the Individual Registration Form and are not communicated to any third party, except only the public institutions / authorities, according to the legal provisions in force."

What is noticeable in the first place is the fact that this consent is not freely expressed because the element of pressure placed on the data subject for expressing his will

cannot be omitted, in fact the person has no real choice. Also, this consent does not contain a manifestation of unambiguous will, respectively an unequivocal action, a statement of the data subject.

Last but not least, we emphasize the lack of a clear purpose for which the consent was obtained. The specification "are not processed for any purpose other than those mentioned in the Individual Registration Form" has no support in fact, because the form does not find the purposes of processing personal data.

Conclusion

There is a need for a unitary and much more rigorous approach to respecting all the principles of personal data processing. Thus, it is necessary to be complete the financing contracts with the information regarding the duration of the processing, the type of personal data, the categories of data persons (except for the Human Capital Operational Program), the obligations of the operator, the instructions of the operator for the processing of personal data and the commitment to persons authorized to process personal data in order to respect confidentiality. The Management Authorities must update the information on the official websites and obtain a freely expressed and unequivocal free consent from all individuals whose personal data is processed, stored and archived.

All these recommendations are important because after May 25, 2018 institutions that do not comply with the requirements of the Regulation will be subject to administrative sanctions or fines.

Given the fact that a huge amount of personal data is processed in the implementation of European-funded projects, it is necessary that all the institutions involved in this process do not lose sight of the rights of the natural person concerned: transparency, information, access, rectification, deletion. , restriction, portability, opposition.

References

- Baldwin R., Cave M., Lodge M. (2012) *Understanding regulation. Theory, strategy, and practice*, 2nd ed. Oxford: OUP.
- Frischhut M. (2015) "EU": short for "ethical" union?: the role of ethics in European Union Law, Heidelberg J Int Law.;75(3):531–77.
- Lynskey O. (2015) *The foundations of EU data protection law*, Oxford: OUP.
- Schwartz PM, Peifer KN. (November 7, 2017) *Transatlantic data privacy*, 106 Georgetown Law J. 2017;115. UC Berkeley Public Law Research Paper. Available at SSRN: <https://ssrn.com/abstract=3066971>.
- Spindler G, Schmechel P. (2016) *Personal data and encryption in the European general data protection regulation*. JIPITEC.;7:163.
- Wilkinson MD, (2016) *The FAIR guiding principles for scientific data management and stewardship*. Sci Data.;3:160018. <https://doi.org/10.1038/sdata.2016.18>.
- Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation)* (2016), Official Journal L 119.
- Directive 95/46/EC of the European Parliament and of the Council of 24 October 1995 on the protection of individuals with regard to the processing of personal data and on the free movement of such data* (1995), Official Journal L 281.
- Charter of fundamental rights of the European Union* (2012) consolidated version Official Journal C 326.
- Treaty on the functioning of the European Union* (2012) consolidated version Official Journal C 326.

EUROPEAN UNION'S YOUTH UNEMPLOYMENT RATE – STATISTICAL ANALYSE OVER THE YEARS 2008 TO 2018

Dana Emanuela Ichim Somogyi

Doctoral School in Economic Sciences, Faculty of Economic Sciences, University of Oradea, Oradea, Romania

emasomogyi@gmail.com

Abstract: *The present article takes a quick view at the youth unemployment rate (YUR) of the European Union recorded over the last decade, 2008 – 2018, mentioning which of the countries achieved the lowest and the highest rates. YURs have been observed by studying and analysing the statistical data from Eurostat for the Eu-28 and the data from the Romanian National Institute of Statistics. The Eurostat data analysed was compared with the Romanian youth unemployment data examined from the Romanian National Institute of Statistics. After analysing the rates recorded, a rise in the YUR was noticed from the second quarter of the 2008 to later 2013. In Romania the YUR had a longer raising trend till the end of 2014. In 2013, the EU, recommended several Youth Employment policies and measures to be applied by the Member States in order to build employment directions and reduce unemployment. A decreasing trend in the YUR was noticed from 2014, trend that continued by and during 2018.*

Keywords: Romania's youth unemployment rate; Fund for Youth Employment.

JEL classification: J64, E24.

1. Introduction

Various types of new skills and jobs are on demand due to the advanced technology and globalisation. Innovation and competitiveness are enhanced by businesses. In the social and economic dimensions, the rising unemployment rate is a great indicator when individuals lose their income and when the government spends on social benefits while the tax income is being reduced. (Context, Eurostat Statistics Explained, Unemployment statistics, Data up to September 2019)

Analysation of European Union's youth unemployment rate (YUR) was the objective of this paper. The EU-28 YUR's recorded over the last decade, 2008 – 2018, writing down the lowest and the highest rates found by studying and analysing the statistical data from Eurostat for the Eu-28 and the data from the Romanian National Institute of Statistics. The Eurostat data analysed was compared with the Romanian youth unemployment data examined from the Romanian National Institute of Statistics. After analysing the rates recorded, a rise in the YUR was noticed from the second quarter of the 2008 to later 2013. In Romania the YUR had a longer raising trend till the end of 2014. In 2013, the EU added onto the existing Employment policies, like 2010 EU Strategy Youth on the Move. Youth Guarantee Youth Employment Initiative, was adopted in 2013, which contained policies and measures to be applied by the Member States in order to build employment directions and reduce unemployment. A decreasing trend in the YUR was noticed from 2014, trend that continued by and during 2018.

2. The concept of youth unemployment

Youth unemployment includes unemployed people between the ages of 15 and 24. Compared to unemployment rates, in general, youth unemployment rates are double. (Anghelache, Constantin et al, 2013) The European Union's employment guidelines advised to build employment pathways reducing YUR by adjusting the education and training programmes to be able to provide trained young people for the new occupational needs and skill requirements. (Contini, Bruno, 2010)

The Europe 2020 strategy was created to reduce the YURs through targeted policies and measures to generate higher activity rates, improving the entry rate of youth among the labour market.

3. European Union's youth unemployment rate, 2008-2018

Looking at 2008, for the first quarter youth unemployment rate (YUR) was 15.1 %, for EU- 27, lowest rate recorded in Denmark 8.0 % followed by Austria 8.5 %, highest rate reached by Spain 24.5 % and Greece 21.9 %. From 1st January 2007 EU-27, and from 1st July 2013 EU-28 when Croatia became a member of the EU.

Table 1: European Union's Youth Unemployment Rate 2008 – 2019, highest and lowest values

Country / year	2008	2013	2016	2017	2018	Q2- 2019
EU-28	15.1	23.7	18.7	16.8	15.2	14.2
euro area	16.1	24.4	20.9	18.8	16.9	15.5
Austria	8.5	9.2	11.2	9.8	9.4	9.2
Czechia	9.9	18.9	10.5	7.9	6.7	6.4
Danemarca	8.0	13.0	12.0	11.0	9.3	8.7
Germany	10.4	7.8	7.1	6.8	6.2	5.7
Grecia	21.9	58.3	47.3	43.6	39.9	33.0
Italia	21.2	40.0	37.8	34.7	32.2	27.6
Romania	17.6	23.7	20.6	18.3	16.2	16.2
Spania	24.5	55.7	44.4	38.6	34.3	32.8

Data source: EUROSTAT

Due to the economic crisis that started in 2008, the EU's YUR had been on raising course from June 2008, reaching 23.7 % in March 2013. For the year 2013 the lowest YUR could be found in Germany 7.8 % and Austria 9.2 %, where as the highest YUR was registered in Greece 58.3 % and Spain 55.7 %. (Eurostat Statistics Explained, Labour force survey overview 2013)

From June 2007 to September 2010 EU-28's YUR and the YUR of the euro area registered close values.

Also, in 2016 we notice a gap between the EU-28 and euro area's YUR, EU-28 18.7 % vs euro area 20.9 %, difference of 2.2 %. This gap is 0.5% smaller in 2018, EU-28 15.2 % euro area 16.9 %.

In 2016, Germany and Czechia, as seen in Table 1, achieved the lowest YUR in EU-28 for the year 2016, Germany 7.1 % and Czechia 10.5 %. Noticing the same trend, Germany and Czechia kept their position, decreased rates in youth unemployment, for 2017 – Germany 6.8 %, Czechia 7.9 %. The same for the highest rates recorded in 2017, Greece and Italy reached, Greece 43.6 % Italy 34.7 %.

The statistic data show the same trend for 2018, the YUR lessen, EU-28 15.2 %, lowest rate found for Germany 6.2 % and Czechia 6.7 %, highest found for Greece 39.9 % and Italy 32.2 %. (Eurostat Statistics Explained, Unemployment statistics, Data up to September 2019)

Looking over the statistics data it can be noticed that the unemployment among young people 15 to 24 year old ones was rapidly arising during the 2008 to 2013.

EU-28 Youth unemployment – a short preview over the third quarter of the year 2019

Throughout the year 2019, see Table 1, the YURs for EU-28 Member States recorded close values as for the third quarter. September 2019. the EU-28’s YUR recorded 14.5 % and the euro area’s one was 15.9 %; lowest YUR found in Czechia 4.4 % and Germany 5.0 %, highest YUR reached by Greece 33.2 % and Spain 32.8 %. (Eurostat Statistics Explained, Unemployment statistics, Data up to September 2019)

4. Youth unemployment rate in Romania 2008 – 2018

The youth unemployment rate recorded in Romania over the last ten years, as seen in Chart 1: for 2008 YUR is 17.6 %, for 2009 YUR is 20.0 %, for 2010 YUR is 22.1 %, 2011 YUR is 23.9 %, for 2012 YUR is 22.6 %, for 2013 YUR 23.7 %, for 2014 the YUR is 24 %, for 2015 the YUR is 21.7 %, for 2016 the YUR is 20.6 %, for 2017 the YUR 18.3 %, for 2018 the YUR is 16.2 %. (Romania National Institute of Statistics, Labour Force in Romania: Employment and Unemployment, 2016, pg 55)

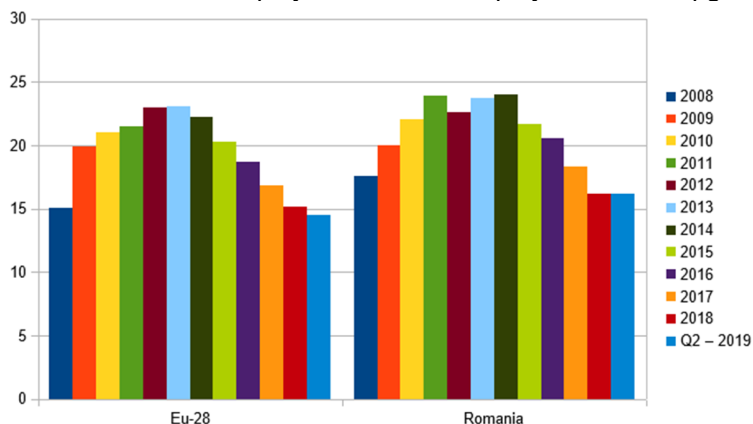


Chart 1: European Union’s and Romania’s Youth Unemployment Rate 2008–2019,

Source for the data: EUROSTAT and Romania National Institute of Statistics

In Romania, unemployment among young people, from 15 year old ones to 24 year old ones was rising during the 2008 to 2015. Due to employment policies implemented and measures adapted by the Member States, plus the economical growth, from 2014 to the end of 2018, the unemployment rates decrease.

Youth unemployment rate in Romania - a short preview over the second quarter of the year 2019 for urban and rural area

YUR for the second quarter of the year 2019 reached 15.0%.

The YUR by residential area: 19.5 % recorded in urban area, 12.9 % for rural area.

Romania’s employment rate for working 15 to 64 year old population recorded for the same period is 66.4 %. For the 20 to 64 year old population, for the same period, the same rate reached 71.6 %, which is 1.6 % points higher than the national target established on Strategy Europe 2020. (Romania National Institute of Statistics, Press Release, No. 241, 26 September 2019)

5. Conclusion

Analysing the statistics, the following could be noticed: the EU-28 youth unemployment rate decreased from 2014, continuing this trend in 2019.

Romania has a youth unemployment rate average close to the EU-28, as observed in Chart 1. Various measures and policies have been implemented by the Member States, also in Romania, to reduce unemployment among young people, including using available funding. Funding which companies and young entrepreneurs can apply for through projects which usually “focus on innovation and exploration, analysis and research”. (Fund for Youth Employment)

Listing European Union funding: European Fund for Strategic Investment (EFSI), European Social Fund (ESF), European Structural and Investment Funds (ESIF or ESI Funds), European Regional Development Fund (ERDF). (European Commission, Employment, Social Affairs & Inclusion, Funding)

References

Anghelache, C., Anghelache, G. V., Prodan, L., Manole, A. (2013) *Structura și ocuparea forței de muncă. Metode și modele de analiză*, Romanian Statistical Review nr. 4 / 2013, [Online], Available:

http://www.revistadestatistica.ro/wp-content/uploads/2014/02/rrs_04_2013_a4ro.pdf, accessed on 7th November 2019.

Contini, B. (2010) *Youth employment in Europe: institutions and social capital explain better than mainstream economics*, IZA Discussion Papers, No. 4718, Institute for the Study of Labor (IZA), Bonn, [Online], Available: <http://ftp.iza.org/dp4718.pdf>, accessed on 7th November 2019.

Context, Eurostat Statistics Explained, Unemployment statistics, Data up to September 2019, [Online], Available: https://ec.europa.eu/eurostat/statistics-explained/index.php/Unemployment_statistics#Youth_unemployment, accessed on 7th November 2019.

European Commission, Employment, Social Affairs & Inclusion, Funding, [Online], Available: <https://ec.europa.eu/social/main.jsp?langId=en&catId=86>, accessed on 8th November 2019.

Eurostat Statistics Explained, Labour force survey overview 2013, [Online], Available: https://ec.europa.eu/eurostat/statistics-explained/index.php/Archive:Labour_force_survey_overview_2013, accessed on 7th November 2019.

Eurostat Statistics Explained, Unemployment statistics, Data up to September 2019, [Online], Available: https://ec.europa.eu/eurostat/statistics-explained/index.php/Unemployment_statistics#Youth_unemployment, accessed on 7th November 2019.

Romania National Institute of Statistics, Labour Force in Romania: Employment and Unemployment, 2016, Table 1.4. Unemployment rate by groups of age, gender and urban/rural area in the 1996-2016 period, pg 55, [Online], Available: http://www.insse.ro/cms/sites/default/files/field/publicatii/labour_force_in_romania_employment_and_unemployment_2016.pdf, accessed on 7th November 2019.

Romania National Institute of Statistics, Press Release, No. 241, 26 September 2019, [Online], Available: http://www.insse.ro/cms/sites/default/files/com_presa/com_pdf/somaj_tr2e_19.pdf, accessed on 7th November 2019.

INNOVATION AND COMPETITIVENESS

Dan Andrei Marincean

Doctoral School of Economic Sciences, Faculty of Economic Sciences, University of Oradea, Oradea, Romania

dmarincean@yahoo.com

Abstract: *This study, addresses the topic of industrial innovation in today's competitive markets and reaches the importance of competitiveness indicators. Any entrepreneurial attempt to produce and promote new and up-to-date products should be carried out, following appropriate mathematical calculations, based on the study of competition, through competitiveness indicators. The concept of innovation will be further investigated in terms of its influence, on industrialized environments. Industrial innovation is conditioned by several specific factors, among which we can list: clear business strategies; setting clearly formulated objectives; correct financing within management programs that benefit the entire innovation activity; the existence of a competent team, that can solve the problems that arise during the innovation projects; the existence of a clear and correct procedure for evaluating the results and the work of the people employed; the existence of a competitive climate inside the company and outside of it, etc. Innovation deals primarily with the introduction of new concepts and values. The present study, serves the tranzition from conceptualizing competition and competitiveness, through competition indicators, to an easier understanding of innovation.*

Keywords: competition; innovation; invention; performance; creative value.

Classification JEL: O31; O32; O33; D41; D42.

1. Introduction

The innovation has a character of permanent change, which aims to adapt variables, determinants in order to achieve the success of competitive strategies. In order to maintain control of these strategies, we must focus on three more important stages during industrial evolution, namely: the period of flexibility, the intermediate period, during which more and more products are used efficiently and the period of maturity or prosperity, governed by the principles of leadership. Most innovation studies consider that innovation should be viewed as a model for designing new products and services. The problem is, however, that innovation in most industrial countries is limited to incremental adjustments, both at the level of products and at the level of production processes. In fact, the competitive analysis shows that companies are, of no help to us, in understanding the concept of innovation. This phenomenon is explained by the fact, that the study on the evolution of companies does not facilitate innovation. Innovation is orienting us towards the future and through an inverse temporal perception process we can discover the new saving idea. In other words, any future is created through innovation, but the innovation process does not attach too much importance to the present, but rather to a metamorphosis of the present into a new present and a renewed future.

2. The concept of innovation

Innovation is an activity that develops in order to obtain new (or significantly improved) products (goods), launched on the market, this activity means the introduction into the industry of new, improved processes. Industrial innovation is defined as the transfer of new ideas or the adaptation of new concepts, until the final stage of a product, process or service activity.

We know four main types of innovations: product innovation; process innovation; organizational innovation and marketing innovation. The concept of innovation develops in parallel with the development of the concept of innovative company.

J. Schumpeter treats innovation as a function of entrepreneurial action, which is obtained through several "new combinations" of existing resources. Schumpeter gives us this acceptance of innovation in his work "The Theory of Economic Development" (1934).

In the specialty literature, a distinction is made between the concept of innovation and that of invention.

F. Malerba (1977) defines the invention as a new idea or scientific breakthrough, a technological novelty, while the innovation is aimed at a marketable application of an invention, this being due to the integration of the invention in the socio-economic practice.

The Oslo Handbook (2005) defines innovation as an activity that results in new or qualitatively improved products, goods and services, through processes that use new methods of business management and marketing.

According to the Frascati Manual (OECD, 2002), technological innovations include new or technologically significant products and processes and notably technological innovation.

K. Pavitt (1987, p.9) notes about technological innovation: "most technologies are complex and are formed by cumulative developments.

Law no. 324/2003 (Romanian Parliament), defines innovation as being oriented towards the generation, assimilation and capitalization of results, research and development.

3. The typology of innovation

Innovation is present everywhere, but new products and technologies are not fully revealed. In everyday life, innovation is associated with technical progress. The innovation processes have been extended to the society level, these being oriented towards the introduction of new strategies, concepts, ideas and organizations that address the social needs. Social innovation is the associated expression of a change, which aims to increase the quality of life and solving social problems.

Innovation can take many forms: product innovation, process innovation, marketing innovation, organizational innovation, incremental innovation, radical innovation, closed innovation and opened innovation.

In order to be successful, innovation must integrate general entrepreneurial strategies. There are several types of innovative strategies: proactive strategies, characterized by the character of radical innovation, which gives companies priority in the market and competitive advantage; active strategies, which aim to efficiently capitalize on existing technologies; reactive strategies, used as imitative strategies of strategies formulated by the leading companies, which are, for example, pursuing the implementation of new ways of communication with consumers, or of delivery and distribution of new products and passive strategies, which are used by companies expecting market changes.

Table1. Models of evaluation of innovation systems

Model	Criteria	Evaluation grid
Diamond	Strategy, Processes, organization, links, learning	1-7 levels
Innovation Management Health Check	Vision and strategy of innovation, resources, organizational structure	10 levels
Open Innovation, Maturity Framework	Climate for innovation capacity of partnerships, internal processes	5 levels
Bain Innovation Assessment	Strategy, organization, generation and development of ideas	4 levels

Source: Innovation management, Popescu (2016), webbut.unitbv.ro › *Management* › *Popescu_Management*

The indicators of competition on global markets are divided into: macroeconomic indicators (levels and trends); indicators from the sphere of international trade, they express the degree of country integration in the circuits of the world economy and evaluate the level of protectionism or openness of an economy, the components of the current account (exports, imports, transfers), the components of the capital account (foreign direct investment, portfolio and long-term loans); demographic system and labor market indicators, which are oriented towards the supply of human resources, qualifying the force of work and qualitative value indicators (Pelinescu 2006, Anghelache 2017). The competitiveness indicators are over 200 in number, of which, 95 are considered basic indicators (Annual Competitiveness Report, 2001). Many economic reports focus on twelve pillars of competitiveness.

Table 2. The twelve pillars of competitiveness

Competitiveness	The efficiency of goods market
	Higher education
	Primary health and education
	Macroeconomic situation
	Infrastructure
	Institutions
	The size of market
	Technical endowment
	Innovation
	Development of the financial market
	Labor market efficiency
	The sophistication of the business environment

Source: Methodology and computation of the global competitiveness, 2017-2018 www3.weforum.org › docs › *GCR2017-2018*

4. Conclusion

Innovation is an essential process for economic growth and for the survival of the new companies. At organizational level, innovation is addressed to new products, technologies, structures, management methods or business models.

The innovation process must be conceived in relation to the research-development activities, being part of the trinome Research-Development-Innovation and

mathematical calculations of competitiveness.

The future of technology and information is generated by innovation and creativity and it's construction, will be possible, through in-depth studies and research on the indicators of competitiveness.

Innovation management will become important for economic development, and the managerial process.

References

- Abernathy, W. J. and Utterback, J. M. (1978) *Patterns of Industrial Innovation*, Cambridge, Massachussets.
- Anghelache, C., Diaconu, A., Nicola, Z., Samson, T., Stoica, R., Stanciu, E., (2017) *Analysis of GDP evolution in real terms*, *Romanian Statistic Review*.
- Govil, R. (2014) *Exchange rate, concepts, measurements and assessment of competitiveness*, Bangkok, IMF.
- Jula, D. (2018) *Competition and economic development*, Phd Thesis, Bucharest.
- Krugman, P. (1994) *The Age of Diminished Expectation*, MTT Press, London.
- Mills, M. C. S. (2000) *Designing, implementing and updating performance measurement systems*, International Journal of Operation and Production Management, Vol. 20, No. 7, pp.754-772.
- Malerba, F., Pezzon, M., Garavaglia, C. (2012) *Innovation and market structure in the evolution of the pharmaceutical industry: a history friendly model*, *Journal of Economics and Statistics*.
- Marincean, D. (2018) *The challenges of global capitalism*, University Publishing House Agora, Oradea, Bihor.
- Mitschke, A. (2008) *The Influence of National Competition Policy on the International Competitiveness of Nations*, Springer Handbook.
- Pavitt, K. (1987) *The Objectives of Technology Policy*, *Science and Public Policy*, 14, pp. 182-188, University of Sussex.
- Pelinescu, E. (2006) *Economic competitiveness and exchange rate in Romania*, Expert, Bucharest.
- Pelinescu, E. (2012) *A model of exchange rate balance. Theoretical aspects, sustainable development in Romania. Medium and long term models and scenarios*, Editura Expert București, pp. 246-270.
- Popescu, M. (2016) *Innovation Management*, University Publishing House Braşov, ISBN-978-606-19-0759-5.
- Porter, M. (2000) *The current competitiveness index: measuring the economic foundations of prosperity*, The global competitiveness report, World Economic Forum, Geneva.
- Porter, M.E. (1990, 1998) *The Competitive Advantage of Nations*, Free Press, HBR, New York
- Porter, M.E. (2008) *The Five Competitive Forces That Shape Strategy*, *Harvard Business Review*, pp. 79–93.
- Schumpeter, A. (1934) *The nature and necessity of a price system*, *Essays on entrepreneurs, innovations, business cycles and the Evolution of Capitalism*, Reprinted from Economic Reconstruction, pp.170-176.
- Ştefănescu, F. (2005) *European Economic Policies*, University Publishing House Oradea.
- Utterback, J. M., Abernathy, W. J. (1975) *A dynamic model of process and product innovation*, *Omega*, Vol.3, No. 6, pp.639-656.
- Vincze, M. (2003) *Regional Competitiveness in Romania*, University Babeş-Bolyai Economics, Cluj-Napoca. www3.weforum.org/docs/GCR2017-2.

INVESTMENT PROTECTION AGREEMENT (IPA) AND VIETNAM-EU FREE TRADE AGREEMENT (EVFTA) OPPORTUNITIES AND CHALLENGES

Nghiêm Xuân Khoát, Lê Thị Thoa

Faculty of Economics and Business Administration West University of Timisoara, Timisoara, Romania

nghiemxuankhoat@gmail.com

Lethoa3008@gmail.com

Abstract: *Investment protection agreement and Vietnam - EU free trade agreement are new generation trade agreements between Vietnam and 28 EU member countries, referred to as IPA and EVFTA. These agreements have negotiated since mid-2012. After 14 official meetings, the negotiation process have completed on December 2, 2015. The agreement officially signed on June 30, 2019, in Hanoi under the witness of Vietnamese Prime Minister Nguyen Xuan Phuc and Ms. Cecilia Malmstrom - Trade Commissioner of the European Union. These two agreements officially came into force they had significant impacts on the economy and social life of Vietnam, as well as the common European community. This paper will focuses on analyzing and assessing opportunities and challenges for Vietnam as well as the common European community. In a number of areas related to agreements such as: Trade in goods; Vietnam's exports to the EU; Customs and trade facilitation; Food hygiene and safety measures and animal and plant quarantine; Technical barriers in trade; Trade defense; Invest; Intellectual Property; Sustainable Development.*

Keywords: trade agreements; trade; investment; intellectual property; import and export; investment protection.

JEL classification: A14.

1. Introduction

Recently, trade - investment relations between Vietnam and the EU have made positive developments. Bilateral trade increased more than 12 times, from 4.1 billion USD in 2000 to over 50.4 billion USD in 2017; in which Vietnam's exports to the EU increased by 13.6 times (from 2.8 billion USD to over 38.3 billion USD) and imports into Vietnam from the EU increased by 9 times (1.3 billion USD to 12, 1 billion USD)[9]. The most outstanding feature in trade and investment relations between Vietnam and the EU is the strong complementarity. There are very few areas where both sides compete. IPA and EVFTA will bring great and practical economic benefits to both sides.

The trade agreement will allow for a 99% reduction in tariffs on all goods, some of which will reduce tariffs over time, a specific schedule and some will be subject to quotas.

Vietnam is committed to protecting 169 EU beverage and food products. In contrast, the EU will exempt import tax for 7 years for some Vietnamese products, such as textiles and footwear.

2. Content

For Vietnam, the implementation of IPA and EVFTA is an important step to diversify trade-investment partners, diversify import and export markets, and avoid depending on a specific region. In the period from 2010 and earlier, it can see that most of the FTAs that Vietnam participated in were with partners in the Asia-Pacific region.

Since 2010, Vietnam has actively promoted free trade agreements with partners in various regions such as the EU and TPP. Including some American countries; Eurasian Economic Union including Russia; Northern European countries (EFTA) including Norway and Switzerland. These agreements, when implemented, will form a comprehensive and stable free trade relations system between Vietnam and all major trading partners in the world.

2.1. Vietnam's opportunity for investment protection agreement and free trade agreement

a. Opportunities to expand markets, promote import and export of goods to the EU market.

When these agreements passed, it created better conditions for Vietnamese enterprises to access the European market, a large market with about 500 million people and brought many benefits to Vietnamese enterprises such as duty free with at least 90% of Vietnam's export tax lines to the EU.[8]

The reduction of import tax to 0% will create opportunities for importing advanced machinery, equipment and technology from the EU market.

Opportunity to self-improve production processes, improve product quality to meet EU regulations.

Opportunity to access investment capital, modern technology, expand business opportunities for businesses ... from the EU market.

Opportunity to easy access other markets with free trade agreements with the EU. Through the signing of IPA and EVFTA, Vietnamese businesses will be able to access and conduct trading with other partners with free trade agreements with the EU.

b. Contributing to promoting economic growth

IPA and EVFTA impact on the process of building a modern market institution and international integration. At the same time impact on economic growth through activities to attract investment and expand exports.

Without EVFTA, the EU was the top investor in Vietnam. With extensive market opening commitments in terms of investment in manufacturing and services sectors, again bound by commitments on intellectual property protection, EVFTA will create a new incentive for attracting Investments of EU businesses in Vietnam.

c. Opportunities for investment

The EU was one of the investors investing in Vietnam early and quickly became one of the major investors, after Korea, Japan, Singapore and Taiwan. As of September 2018, the EU has invested directly in Vietnam with 2142 projects with a total capital of 48.5 billion USD[9].

d. Opportunities for development cooperation

The European Union and its member countries are the leading non-refundable donors in Vietnam, providing 5.8 billion Euros in total funding for the period 2012-2018, 41% of which are non-refundable, repayment (2.4 billion euros) and 59% of the loan (3.4 billion euros)[3].

e. EVFTA helps drastically reduce tariffs

Once EVFTA comes into effect, 85.6% of tariff lines will be abolished immediately (equivalent to 70.3% of Vietnam's exports to the EU), and 99.2% will be eliminated

within 7 The following year (equivalent to 99.7% of Vietnam's exports to the EU) - the highest level among the free trade agreements that Vietnam has ever signed[4].

For the remaining 0.3% of export turnover (including: some rice products, sweet corn, garlic, mushrooms, sugar and products containing high sugar content, tapioca starch, canned tuna), The EU committed to opening Vietnam under tariff quotas (TRQs) with import duties within the quota of 0%.[7]

f. Increase competitiveness with similar products of other countries

Currently Vietnamese goods enjoy the EU's universalized system of preferences (GSP). Accordingly, developing countries pay lower taxes on goods exported to the EU, but this will be review periodically. This is lower than the preferential import and export tariff (Most Favored Nation - MFN) applied to Singapore, Malaysia, Brunei, making Vietnam's goods more competitive than exports from other countries.

g. Bilateral trade continues to be strengthen

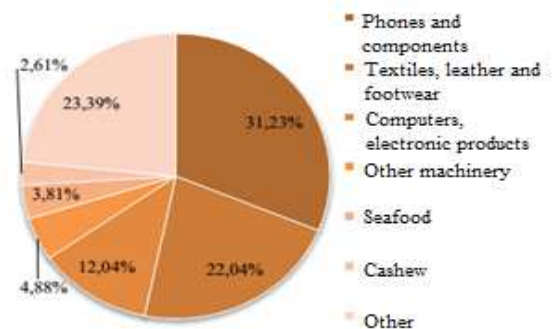
In 2018, the EU was the second largest export market of Vietnam (38.3 billion USD), after the United States (41.5 billion USD)[9]. In the ASEAN region, Vietnam is currently the second most important partner of the EU (after Singapore), but does not directly compete with the same product group in this market. Therefore, with IPA and EVFTA, Vietnam's exports continue to benefit, of which the direct beneficiary groups, most are: textiles, footwear, seafood and some agricultural products. Besides, the fields are indirect benefited by trade such as logistics, seaports.[5]

Chart 1: Vietnam Trade - EU, 2013 - 2017



Source: GSO

Chart 2: Vietnam's main exports to the EU in 2017



Source: General Department of Customs

2.2. Challenges for Vietnam before investment protection agreement and free trade agreement

a. Increasing competition pressure on the domestic market.

The demand for imported products, especially those originating from Europe, has been increasing recently. When the tariff barrier removed, European goods will easily penetrate the Vietnamese market, at which time Vietnamese enterprises will face great pressure from European businesses. The pressure express in both the areas of trade in goods and services.

b. The strict requirements on rules of origin, dumping, subsidies and the use of trade remedies are also major obstacles for Vietnamese businesses in accessing the EU market.

c. Strict EU requirements on sanitation, environment, labor and technological processes

Consider a long-standing barrier to Vietnam's export activities to this market. To export to the EU, Vietnamese businesses must comply with the provisions on hygiene, environment, labor and technological processes.

d. Companies lack information on free trade agreements.

Many enterprises actually do not take full advantage of tariff benefits because they do not know about FTAs and the certification process of origin is still complicated. In particular, most businesses do not yet meet the conditions of origin rules. According to the data of Vietnam Trade Office, in the past time, only Vietnamese enterprises exported to Korea were able to take advantage of the incentives from Vietnam - Korea FTA.

e. Reduce tax revenues

Reducing tax revenues is a major challenge for Vietnam when implementing this agreement. It expressed in the form of tariff reduction for goods from EU partner countries. Vietnam is still a market with many commodity groups still keeping relatively high MFN tax rates with a long-term opening schedule. Therefore, the commitment to reduce taxes on most groups of goods from the EU will lead to a decrease in state budget revenues.[2]

f. The risk of trade remedies

Normally, when tariff barriers are no longer an effective tool to protect, enterprises in the import market tend to use more anti-dumping, anti-subsidy or safeguard measures to protect their domestic manufacturing industry. The EU is one of the "traditional" markets to use these tools.

2.3 The impact of EVFTA and IPA on the European community

For the EU, the benefits are also very clear. EU studies have shown that EVFTA will increase EU national income in the long term, with an increase of up to 29.5 billion euros[6].

The IPA will open up more opportunities for EU investors to invest in Vietnam, a large market with nearly 100 million people and in great demand.

EVFTA is a door to help EU businesses to provide more products at cheaper prices, with a higher competitive advantage with other countries in Vietnam market.

Mr. Nicolas Audier, co-chairman of EuroCham said that EVFTA brings "mutual benefits" to Europe and Vietnam to the European business community this is an important motivation for them to pour capital and diversify peace of mind market chemistry.

European businesses point out a positive, positive picture with 85% anticipation that EVFTA will have a significant or moderate impact on their long-term business and investment plans in Vietnam.[1]

With less direct competition in the structure of import and export goods of Vietnam and the EU, many products from the EU such as machinery, beef, milk, wine, pharmaceutical products ... are waiting "Golden Point" to enter Vietnam.

The complementarity in trade in goods between Vietnam - EU is creating a strong trading atmosphere for businesses of both sides, when EVFTA implemented. In addition, when Vietnam's economy is growing strongly, the consumer market with nearly 100 million people is really an ideal destination for European consumer goods, especially agricultural products, foodstuffs, meat products, milk and pharmaceuticals.

In particular, EU businesses can access not only the market of nearly 100 million Vietnamese people but also the ASEAN countries, CPTPP and other major markets in

East Asia, contributing to the impetus of cooperation East-West brings the prosperous development of Asia and Europe.

3. Conclusion

Recently, trade - investment relations between Vietnam and the EU have made positive developments. Bilateral trade increased more than 12 times, from 4.1 billion USD in 2000 to over 50.4 billion USD in 2017; in which Vietnam's exports to the EU increased by 13.6 times (from 2.8 billion USD to over 38.3 billion USD) and imports into Vietnam from the EU increased by 9 times (1.3 billion USD to 12, 1 billion USD)[9]. The most outstanding feature in trade and investment relations between Vietnam and the EU is the strong complementarity. There are very few areas where both sides compete. IPA and EVFTA will bring great and practical economic benefits to both sides. On that basis, the potential for developing trade, investment and bilateral cooperation after EVFTA signed is enormous. In the context that Vietnam is actively negotiating, signing and implementing FTAs with many major trading partners, EVFTA will have a resonant impact with the ASEAN Economic Community and other FTA agreements, creating attraction for investment from the EU, thereby promoting the innovation of Vietnam's growth model, contributing to building a transparent and stable business environment for businesses and investors.

References

- Lam, T. (2018) *Breakthrough for Vietnam - EU Free Trade Agreement*, Vietnam: People's Newspaper.
- German Chamber of Commerce and Industry in Vietnam (2018), *European Union announces the detailed content of EVFTA*: on September 21, 2018.
- Ha D. (2018) *Vietnam - EU Free Trade Agreement: Breakthrough Success*, Vietnam: VCCI.
- Economics and forecasts (2014) *FTA between Vietnam - EU: Opportunities and challenges*.
- Uyen, U. (2018) *Opportunities from EVFTA*, Vietnam News Agency.
- Dong, N. (2015) *Opportunities and challenges when joining Vietnam-EU Free Trade Agreement*", Banking Times.
- European commission (2018) *Guide to the eu-vietnam free trade agreement*.
- European Commission, Directorate General for Trade <http://ec.europa.eu/trade/>.
- Annual report 2016 - 2019, Vietnam Chamber of Commerce.

GEOPOLITCS AND THE COUNTRY RISK

Iulia Platona (Eleneș)

Faculty of Economics and Business Administration, West University of Timisoara, Timisoara, Romania

iulia.elenes74@e-uvvt.ro

iuliaplatoana@gmail.com

Abstract: *Geopolitics was firstly explained by the swedish geographer Rudolf Kyellen in 189 describing state as living organism and geopolitics as “physical structure” (Fettweis 2015). British geographer Halford J. Mackinder presented the concept of Eurasia through his theory of the “Heartland”—the northern-central part of Eurasia “geographical pivot of history”(Mackinder, 1904) “Who rules East Europe commands the Heartland; who rules the Heartland commands the World-Island; who rules the World-Island commands the world.”(Mackinder, 1919, Democratic Ideals and Reality, p. 150). Yale’s Nicholas Spykman (1944) starting from Mackinder’s theories argued that the “Rimland,” or the Eurasian territory that surrounds the Heartland is more crucial territory . Who controls the Rimland rules Eurasia; who rules Eurasia controls the destinies of the world. Due to the fact that the most of the world’s oil and natural gas reserves are located in the sub-regions of the Eurasia, Sarah O’Hara (2004)even revised Mackinder’s famous dictum as “who controls the export routes, controls the oil and gas [and] who controls the oil and gas, controls the Heartland”in light of the changing Eurasian energy geopolitics of the 21st century. We present the relation between country risk and geopolity.*

Keywords: geopolity; country risk; Eurasia; political risk; geoeconomics; geostrategy.

JEL classification: A14.

1. Geopolitics in literature

“Geopolitical issues are becoming more important, because how can you understand [the] economy if you don’t understand geopolitics?” Nouriel Roubini (2019) .Little research is devoted to quantify the macroeconomic and financial impact of geopolitical risks. Geopolitics was firstly explained by the swedish geographer Rudolf Kyellen in 1899 (Fettweis, 2015) describing state as living organism and geopolitics as “physical structure” (Mackubin 2015). The first description of the term was made by Friedrich Ratzel (Ratzel 1897) using metaphors from the biology. The power and the adaptability to the Lebensraum of the state as an organism was an constant struggle for survival and adapting to the environmental conditions. (Fettweis, 2015), (Owens 2015).

For Alfred Thayer Mahan, a geostrategist, the sea power was the key to world power. Mackinder believed that changes in technology, especially the revolution in land transportation associated with the railroad, put to an end the Columbian age of dominant sea power and had modified the balance of power between sea power and land power. The center of emerging land power was the Eurasia Mackinder first called the “geographical pivot of history” and later the Heartland. For Mackinder, Eastern Europe was the gateway to the Heartland. (Owens 2015)

British geographer Halford J. Mackinder presented the concept of Eurasia through his theory of the “Heartland”—the northern-central part of Eurasia “geo-graphical pivot of history”(Mackinder, 1904) “Who rules East Europe commands the Heartland; who rules the Heartland commands the World-Island; who rules the World-Island commands the world.” (Mackinder, 1919, Democratic Ideals and Reality, p. 150) Yale’s Nicholas Spykman starting from Mackinder’s theories argued that the “Rimland,” or the Eurasian territory that surrounds the heartland is more crucial territory. (Spykman 1944) Who controls the Rimland rules Eurasia; who rules Eurasia controls the destinies of the world.”

2. Geopolitics and the country risk

“Country risk can be broadly defined as the probability of particular future events within a state that could have an adverse effect on the functioning of a given organization” (Brown, Cavusgil and, Lord 2015) There are well known institutions that provide country risk analysis: Economist Intelligence Unit (EIU), Maplecroft, Political Risk Services (PRS) Group, Roubini Global Economics, Legatum Institute „Romania is ranked 130th globally on transparency of government policy” (Legatum Institute 2019) (Damodaran 2017) identifies the sources of country risk

1) Life cycle, younger companies are much riskier than mature companies
 In the literature, is presented a stable long term relationship between country risk and the financial markets. Risk rating agencies like Standard and Poor’s, Moody’s, Euromoney, Institutional Investor, Economist Intelligence Unit, and the ICRG analyse the country ratings starting from economical, financial, political relevant composite indicators. (Suleman, Gupta and Balçilar 2017).

2) In the figure below we present political risk and corruption risk

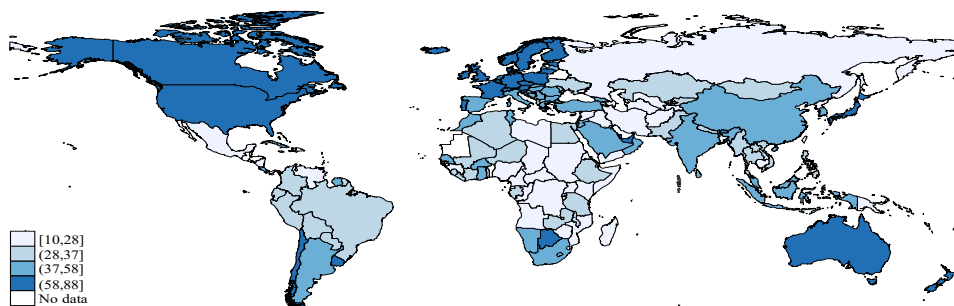


Figure 1 Corruption risk

Source own prepared by the author, created in STATA using statistical data from Transparency International 2019

Romania Score 47/100, Rank 61/180, Switzerland Score 85 Rank 3/180 Germany Score 80/100 Rank 11/180, Venezuela Score 18 Rank 168, Lybia score 17, Rank
 In the figure below physical violence is measured within global peace index

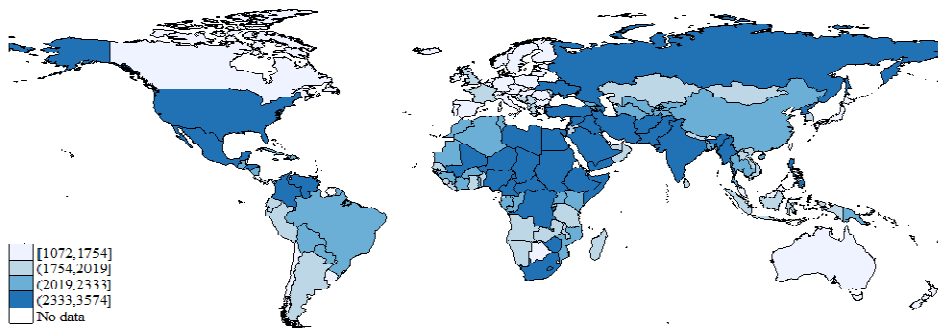


Figure 2 Global peace index

Source own prepared by the author, created in STATA using statistical data from The Institute for Economics and Peace, Global Peace Index 2019.

The global peace index shows that the most peaceful countries, ranked first and second are Iceland and New Zealand. Romania is ranked on the 25 place We add Geopolitical risk and its impact on the corporate governance of the organisation. Little research is devoted to quantify the macroeconomic and financial impact of geopolitical risks.

Dario Caldara Matteo Iacoviello Federal Reserve Board, North Carolina State University, (Caldara and Iacoviello 2018), created an geopolitical risk index. Caldara and Iacoviello constructed an indicator of geopolitical risk—GPR Index—measuring frequency of articles in leading newspapers discussing rising geopolitical tensions. The focus on risks is associated with wars, terrorism, tensions between states (Caldara, Iacoviello 2018) Geopolitical risks are often considered as precursors to changes in business cycles. Emerging economies are vulnerable to changes in trade and capital flows, which are perceived as geopolitical risks.(Cheng and Chiu 2018)To measure geopolitical risks, Chak Hung Jack Cheng, Ching Wai Chiu (2018) use the Dario Caldara Matteo Iacoviello indicator of geopolitical risk-GPR Index. Their results show that rising global geopolitical risks are linked with important economic contractions in the analysed countries. The Caldara Iacoviello indicator of geopolitical risk is used also by Tiwari Aviral Kumar et all (Tiwari, Das and Dutta 2019) In the figure we present the degree of dependence upon commodities UNCTAD.

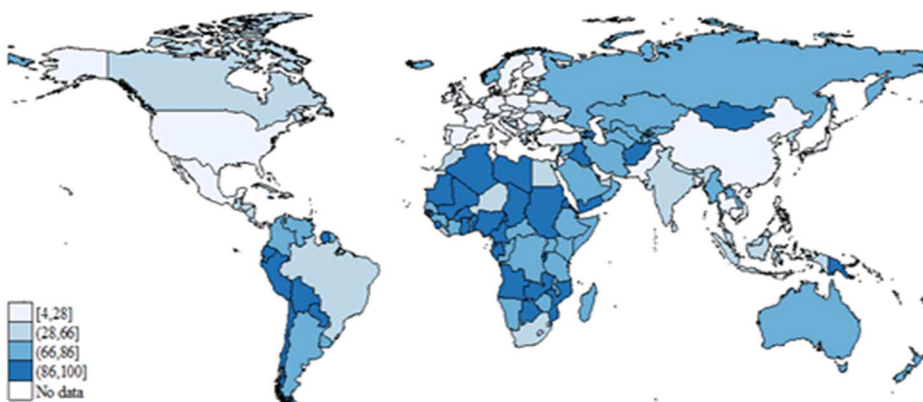


Figure 3 Degree of commodity export dependence of all countries in the world 2013-2017 (UNCTAD 2019)

Source own, prepared by the author, created in STATA using UNCTAD statistics

A country is commodity-dependent if commodities are more than 60% of its exports

3. Conclusions

Due to the fact that the most of the world's oil and natural gas reserves are located in the sub-regions of the Eurasia, Sarah O'Hara (2004,148) even revised Mackinder's famous dictum as: "who controls the export routes, controls the oil and gas [and] who controls the oil and gas, controls the Heartland" in light of the changing Eurasian energy geopolitics of the 21st century. (Ersen and Celikkpala, 2019) Turkey's strategic geographical location is used as major argument for economic feasible pipeline projects of land gas, by Turkish diplomacy. Turkey must find an equilibrium in the relations between EU and Russia to fulfill its investment projects in energy pipelines. (Ersen and Celikkpala 2019). Russian gas can use north Turkey to supply EU markets and central Asian and Middle East gas, need the entire Turkey as transit country. (Austvik and Rzayeva, (2017)

References

- Austvik, G. and Rzayeva, G. (2017) Turkey in the geopolitics of energy, *Energy Policy* 107 (2017) 539-547.
- Brown C., Cavusgil T. and Lord W. (2015) Country risk measurement and analysis: A new conceptualization and managerial tool, *International Business Review*, pp. 246-265.
- Caldara, D. and Iacoviello, M. (2018) *International Finance Discussion Papers Board of Governors of the Federal Reserve System, Measuring Geopolitical Risk.*
- Cheng, C. H. J, and Chiu C. W. (2018) How important are global risks to emerging economies? *International Economics*; Vol 156, 2018, pages 305-325.
- Damodaran, A. (2017) /SSRN-id3427863, *Country Risk: Determinants, Measures and Implications – The 2019 Edition*, Stern School of Business.
- Ersen, E. and Celikkpala M. (2019) Turkey and the changing energy politics of Eurasia, *Energy Policy* volume 128, pp. 574-592.
- Fettweis C. (2015) *On Heartland and Chessboards: Classical Geopolitics, Then and Now* FPRI.
- Ratzel, F., (1897) *Politische Geographie*, Munich: Oldenbourg.
- Spykman, N. (1944) *America's Strategy in World Politics: The United States and the Balance of Power* (New York, NY: Harcourt, Brace and Co., 1942) and *The Geography of the Peace* (New York, NY: Harcourt Brace & Co., 1944).
- Suleman T., Gupta R. and Balcilar M. (2017) Does Country risk predict stock returns and volatility? Evidence from a nonparametric approach. *Research in International Business Finance*, Volume 42, December 2017, pp. 1173 -1195.
- Tiwar, I. A. K., Das, D. and Dutta A. (2019) Geopolitical Risk, economic policy uncertainty and tourist arrivals: Evidence from a developing country, *Tourism Management*, Volume 75, (2019) pp. 323 – 327.

BENEFITS OF THE ELECTION PROGRAM TO ENSURE LOCAL DEVELOPMENT OF THE MUNICIPALITY OF ZVOLEN

Darina Rojíková

Department of Public Economics and Regional Development, Faculty of Economics, Matej Bel University, Banská Bystrica, Slovak Republic

darina.rojikova@umb.sk

Abstract: *Local development is a long-term process provided by the municipality and should be of interest to its elected authorities. The elected representatives have in their hands unique public policy instruments - election programs and strategic documents, which can significantly influence development. The article focuses on evaluation of activity of local self-government bodies by implementation of their election programmes after entering to function during the election term 2014 – 2018 through the tools of public policy. It points out to the necessity of strategic planning and management of development at the level of local self-government that is closely interconnected with the creation of strategic documents and fulfilment of election goals of the elected municipal representatives.*

Keywords: local government; competence; local development; city authorities; election programs; strategic documents.

JEL classification: O20.

1. Introduction

The issue of the implementation of the election goals of city councilors and mayors in practice is currently a relatively discussed topic. Through elections to municipal authorities, citizens transfer part of their sovereignty and powers to elected representatives of city authorities (Potuček and Rudolfová, 2016). Elected representatives of the municipality by their election, also, acquire not only the rights, but also the obligation to ensure the universal development of the territory in relation to their election programs and valid strategic documents. The problem often arises right after the elections, especially with a large number of political actors, when individual elected representatives are unable to find the penetration of their electoral goals and translate them into one common binding program which they will follow during the election period. Decisions of the municipal authorities should be directed to the coordinated development of the municipality using public policy instruments (Vitališová et al., 2017).

It is necessary to realize that the development of the municipality is a process longer than one election period. Ensuring continuous development of the municipality is thus closely related to strategic planning and management, which should become a common part of the performance of the municipality's self-government and a key prerequisite for its long-term prosperity. However, at the level of local governments of the Slovak Republic, there are no suitable conditions for its application. There is no uniform methodology and framework for the creation of strategic documents. Processes related to the realization of election goals and the creation of strategic documents are very closely interconnected, not only at the local level. It is therefore

very important that the state and its representatives at all levels of public administration of the Slovak Republic pay due attention to this issue (Hlaváčová, 2018).

2. Materials and Methods

In order to analyze the fulfillment of the election goals during the 2014-2018 election period, we approached deputies of the city council and the mayor of Zvolen with a request to send the election goals they had set before the elections to the municipal self-government bodies in 2014. 15 (60%) of the 25 MPs deputies and the mayor of Zvolen provided their election programs. We evaluated the fulfillment of election goals by deducting Programme of Municipality Development (PMD) indicators and program budget (PB) indicators, therefore we assigned measurable indicators from PMD and PB to individual election goals. We set the level of fulfillment of election goals by the scale - fulfilled, partially fulfilled and not fulfilled.

Furthermore, we have examined through financial capacity indicators whether and to what extent the budget of Zvolen provides opportunities for further development. For financial analysis we have chosen indicators - the rate of self-financing of the municipality and the rate of self-sufficiency of the municipality in the generation of income. The indicator of self-financing rate of the municipality expresses the ability of the municipality to cover current expenses from its own income. It is expressed by the ratio of own incomes of the municipal budget to current expenditures of the municipal budget. If the value of this indicator is higher than 1, the municipality may use the funds for development activities and projects. If the value of this indicator is lower than 1, the municipality needs additional resources to cover current expenses. The self-sufficiency indicator reflects the degree of stability of the economy and the autonomy of the municipality. It expresses the ratio of own incomes of the municipal budget to the total incomes of the municipal budget. The greater the share of the municipality's own income in the total revenue of the municipality, the more financially autonomous the municipality is, and vice versa (Kolektív, 2017). The sources of data were election programs of deputies of town council and mayor of Zvolen, Program of Municipality Development and other strategic documents, program budgets and closing accounts, general binding regulations, resolutions and minutes of meetings of town council, database of statistical office of SR and valid laws of SR.

3. Research Results

The Mayor of Zvolen and the MPs did not define the priority goals that they want to address in the 2014-2018 election period in „Programme Declaration of Municipal Authority“. The elected representatives of Zvolen did not show any effort and interest to negotiate common goals for the election period. They did not do so, despite the assumption that significant political fragmentation among the municipal councils is likely to "stand in the way" of making important decisions related to the development of the city. This assumption was fulfilled during the election term. Internal political contradictions have suspended several important decisions. The situation is aggravated by the fact that at the beginning of the new election period none of the election targets was implemented in the city's strategic documents. Therefore, there was no synergy effect between the authorities of the town of Zvolen, which was reflected in every single meeting. We have decided to verify this assumption by analyzing the fulfillment of election targets by deducting PMD and PB indicators. Of the 35 election goals, 9 (26%) were fulfilled, 6 (17%) were partially fulfilled and 20 (57%) were not fulfilled.

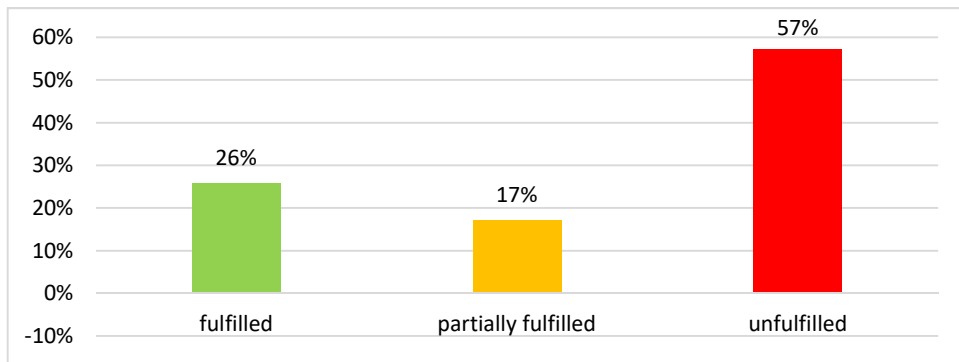


Chart 1: Implementation of election goals by means of program budget indicators and Programme of Municipality Development indicators
Source: Own processing

The town of Zvolen is one of the towns with good management, as it has reached a budget surplus in the long term. However, this does not guarantee that the municipality of Zvolen is able to finance, in addition to the obligatory expenditures that provide public services, the financing of development activities. It is therefore very important that the representatives of Zvolen, in particular, know what options the municipality of Zvolen has to finance development plans, which are often part of their election programs.

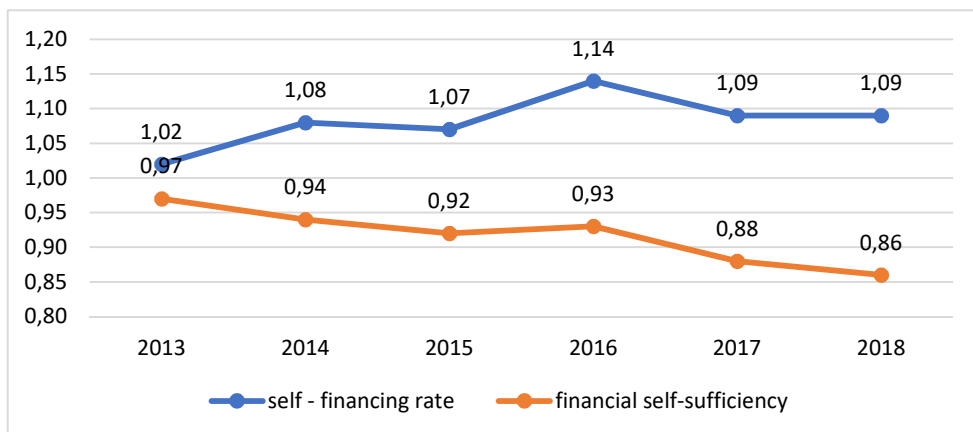


Chart 2: Development of selected financial indicators of Zvolen in 2013 – 2018
Source: Own processing

Chart 2 shows that the self-financing rate of Zvolen for 2013-2018 ranged from 1.02 in 2013 to 1.14 in 2016. Since the self-financing rate was higher than 1 in the years 2013-2017, the city of Zvolen it was able to cover current expenses from its own income and at the same time had its own financial resources, which it could use to carry out development activities and projects. The rate of financial self-sufficiency tended to decrease in the period under review. In 2013 it was 0.97, in 2017 and 2018 only 0.86. The decreasing tendency of this indicator was caused by a more significant increase in

the volume of subsidies and share taxes flowing into the city budget compared to the increase in the volume of own incomes of Zvolen.

4. Conclusion

Zvolen citizens authorized elected bodies to execution of public matters in the municipal self-government elections in 2014. Via administering oath they committed to fulfil their election goals and provide the development of municipality. Municipality representatives have public policy tools in their hands that should not only be the tools for individual or collective goal of positive ranking in political ladder. Analysis results show that not even the half of the election goals determined by the mayor and MPs of Zvolen were fulfilled during the election term of 2014 – 2018 despite the fact that the financial situation in municipaly enabled it. The main problem that we perceive is the fact that elected representatives of municipaly failed to define common priority goals in joint „Programme Declaration of Municipal Authority“ by entering into office. Moreover, elected representatives of Zvolen failed to implement their election goals to the Programme of Municipality Development during the election term. The basic problem is in the fact that the self-governments do not know the meaning and reason of applying election programs and strategic documents by municipality development as public policy tools. With respect to the above stated facts we come to a conclusion that the election programme is the benefit for the municipality development however basic prerequisites need to be met. The state should become coordinator of long-term continuous development at all the public administration levels. Unified methodology and framework for creation and implementation of strategic documents should be created.

References

- Kolektív (2017) *Strategické plánovanie ako súčasť rozpočtovania vo verejnej správe*, Banská Bystrica: Belianum.
- Hlaváčová, D. (2018) *Prínos volebného programu pri zabezpečovaní rozvoja vybraných dvoch miestnych samospráv*, EF UMB.
- Vitališová, K., et. al. (2017) *Verejná politika a úloha občana v nej*, Banská Bystrica: Belianum.
- Potuček, M. and Rudolfová V. (2016) *Veřejná politika*, C. H. Beck.
- Weisová, D. and Bernátová, M. (2012) *Strategické plánovanie samosprávy praktický poradca na ceste k úspešnému rozvoju obcí, miest a regiónov*, Žilina: Municipality.

CARTELS AND THE USE OF LENIENCY PROGRAMMES IN THE COMPETITION POLICY

Ciprian Scurt

Doctoral School of Economic Sciences, Faculty of Economic Sciences, University of Oradea, Oradea, Romania

ciprian.scurt@gmail.com

Abstract: *Cartels represent illegal agreements between undertakings and are one of the most pernicious anti-competitive practices, being targeted by competition authorities around the world. They create allocation inefficiency and reduce companies' incentives to provide new or better products and services at competitive prices. The rise of the leniency programmes in 1978 in the US and in 1996 at the EU level strengthened the ability of the law enforcers to identify and put an end to such practices. Leniency programmes are a modern tool in cartel detection. The increased importance of these programmes is demonstrated by the fact that 80% of the European Commission's cartel cases are detected through leniency applications. It is expected that the relevance of the leniency programmes will increase significantly among the tools used to carry out the competition policy in various jurisdictions.*

Keywords: cartel; competition; leniency.

JEL classification: K21; L41.

1. Short introduction to the competition policy

Competition policy is one of the first common policies adopted at European Union (EU) level, having a fundamental role in creating and strengthening the common market (Prisecaru, 2004). The objective of the common competition policy is to stimulate competitive markets to ensure the optimal functioning of the common market, an intrinsic condition for the competitiveness of the European economy.

At community and national level, certain types of agreements between competing companies on the market are forbidden. These illegal practices restrict, impede or distort the competition.

The competition rules laid down in the Treaty on the Functioning of the European Union are enforced by the European Commission and, at the level of each EU Member State, the competition authorities apply the national competition rules. Competition rules at the national level are congruent with those at community level.

The need to discourage serious anti-competitive practices has led to the emergence of leniency programs, applied by the European competition authorities, as bodies empowered to protect and stimulate competition in the markets.

2. Cartels and leniency programmes

2.1. Cartels

Defined as an agreement whereby a group of producers or distributors of the same product set the prices or share the market, the cartel is considered to be synonymous to an explicit form of secret agreement, the analysis of the economic effects of cartels

being based on the theory of cooperative oligopoly (Berinde, 2008). Also, cartels can consist in practices limiting production or sales, as well as allocating customers.

In essence, even if the undertakings should compete on the market, “cartel members rely on each others' agreed course of action, which reduces their incentives to provide new or better products and services at competitive prices. As a consequence, their clients -consumers or other businesses- end up paying more for less quality” (European Commission, 2019).

Cartels, as horizontal agreements, are considered to be the most harmful types of anti-competitive practices, due to the major impact they have on the welfare of consumers and the economic environment. They create allocation inefficiency, for example by reducing production in order to increase prices, and encourage productive inefficiency by protecting inefficient producers, which can increase average production costs in a given industry (Leslie, 2006).

Because of such negative effects, cartels are illegal under EU and national competition laws and this is why the companies involved in a cartel are drastically sanctioned with fines up to 10% of their turnovers.

2.2. Factors that facilitate cartels

Cartels tend to occur with predilection in oligopoly markets, due to the small number of companies, which can facilitate cooperation and can facilitate the implementation of secret agreements. In an oligopoly market, there can be strong interdependencies between the actions of the companies, thus being easier to observe if the members of the cartel respect the terms of the secret agreement.

There are two types of factors that facilitate cartels: supply and demand factors and behavioral factors.

Factors related to the demand and supply that facilitate the emergence of such agreements can consist in: the existence of a homogeneous product, the existence of mature or very young markets, the existence of markets characterized by a low degree of technical advance, demand that is stagnant or declining, inelastic demand.

Behavioral factors that facilitate the appearance of cartels can consist in: the existence of trade associations on the market, of organizations and unions, exchanges of information, publication of list prices, pre-notification of price changes or various contacts.

2.3. Case example regarding cartel sanction and the use of leniency programme

Although cartels are generally considered inherently unstable, due to the tendency of some members to sidestep the agreement and obtain additional profits or due to some changes in market conditions / factors, law enforcement experience has shown that some cartels have an extremely long lifetime.

For example, European Commission sanctioned in September 2019 the undertakings Coroos and Groupe CECAB with a total of € 31.647.000 for breaching EU antitrust rules on the market of canned vegetables. The infringement lasted for 13 years, from January 2000 to October 2013. According to European Commission officials, European consumers should have had *access to food at affordable prices, “but instead of competing with each other, Coroos and Groupe CECAB agreed to divide the market among themselves and to fix prices for canned vegetables across Europe. They did so for over a decade. These cartels ultimately hurt European consumers and with today's decision we send a clear message to companies that cartels are not accepted”* (European Commission; Vestager, 2019).

Another involved party in this cartel was the undertaking Bonduelle. It was not fined as it revealed the existence of the cartel to the Commission. This was possible under the Leniency programme of the European Commission.

2.4. Leniency programmes

The leniency programmes stimulate the members of a cartel to reveal the existence of the respective illegal agreement, by protecting the respective company against the sanctioning regime. Basically, the company that first denounces participation in a cartel obtains immunity from fine.

The United States are pioneers in this area, by promoting a leniency program called Corporate Immunity Program or Amnesty Program in 1978, program which has been revised in 1993. The approach used by antitrust authorities in the United States represents a transposition into practice of the Chicago School economic thinking, being one of the successful applications of practical implementation of game theory (Kovacic; Saphiro, 2000).

The European Union introduced its own leniency programme in 1996, and revised it in 2002 and 2006. Triggered by the successes of the United States and the EU, leniency has become a standard feature of cartel enforcement regimes throughout the world. Starting with the British and German competition authorities in the year 2000, all OECD member countries have adopted leniency programmes - as well as all EU Member States with the exception of Malta (OECD, 2018). In Romania, the Leniency Programme is in force beginning with 2004.

3. The impact of Leniency programmes on anti-cartel efforts

According to OECD (OECD, 2018), a majority of respondents to a 2017 Survey replied that the leniency programme is the most effective tool for detecting cartels. Thus, “the percentage of cartel cases detected through leniency applications is reported in the survey to range between 45-55% for countries like Canada, Chile, Germany, Korea and New Zealand and up to 80% for the EU” (OECD, 2017). “In the United States (US), over 90% of penalties imposed by the US Department of Justice were linked to investigations assisted by leniency applicants” (Guttuso, 2015).

In the case presented at the sub-section 2.3, Bonduelle received full immunity for revealing the existence of the cartel, thereby avoiding a fine of ca. € 250 million.

This kind of example offers an explanation on why the leniency programmes are so successful. The undertakings involved in a cartel may obtain immunity from significant fines and the objective of the competition authorities is also accomplished – the restoration of a normal competitive environment.

At the European Commission level, the number of cartels discovered by using the leniency programme tool substantially increased in the last 20 years (**Table 1**):

Table 1: European Commission cartel decisions with fines

Period	The number of European Commission cartel decisions with fines	Number of decisions in which immunity was granted under the European Commission’s leniency programme
1986 - 1990	9	
1991 - 1995	8	

1996 - 2000	10	1
2001 - 2005	33	20
Period	The number of European Commission cartel decisions with fines	Number of decisions in which immunity was granted under the European Commission's leniency programme
2006 - 2010	31	25
2011 - 2015	23	21

Source: Wouter P.J. Wils (2016) *The Use of Leniency in EU Cartel Enforcement* <https://www.valuewalk.com/2016/06/eu-cartel-enforcement/>

4. Conclusion

Leniency programmes are a modern tool in cartel detection. The data shows that, in certain jurisdictions, such a programme contributes in a substantial manner to increasing the number of prohibited agreements detected.

As long as anti-cartel enforcement will remain the no. 1 priority of the competition authorities, it is expected that the importance of the leniency programmes will increase significantly among the tools used to carry out the competition policy.

References

- Berinde, M. (2008) *Cartels - Between Theory, Leniency Policy and Fines*, [Annals of the University of Oradea](#), pp. 549.
- European Commission; Margrethe Vestager (2019) *Press release*, https://europa.eu/rapid/press-release_IP-19-5911_en.htm.
- European Commission (2019) *Overview: Procedures Anti-competitive Practices*, https://ec.europa.eu/competition/cartels/overview/index_en.html.
- Guttuso, L. (2015) *From "Mono" to "Stereo": Fine-Tuning Leniency and Settlement Policies*, *World Competition: Law and Economics Review*, Vol. 38/3, pp. 395-421.
- Kovacic, E. William and Saphiro, C. (2000) *Antitrust Policy. A Century of Economic and Legal Thinking*, *Journal of Economic Perspectives*, American Economic Association, vol. 14(1), pp. 43-60.
- Leslie, Christopher R. (2006) *Antitrust Amnesty, Game Theory, and Cartel Stability*, www.semanticscholar.org.
- OECD (2018) *Challenges and Co-Ordination of Leniency Programmes - Background Note by the Secretariat*, [https://one.oecd.org/document/DAF/COMP/WP3\(2018\)1/en/pdf](https://one.oecd.org/document/DAF/COMP/WP3(2018)1/en/pdf).
- OECD (2017) *The Implementation of the Council Recommendation concerning Effective Action against Hard Core Cartels, Draft Report by the Secretariat*, DAF/COMP/WP3(2017)2.
- Prisecaru, P. (2005) *Politici comune ale Uniunii Europene*, București, Editura Economică, pp. 166.
- Wouter P.J. W. (2016) *The Use of Leniency in EU Cartel Enforcement: An Assessment after Twenty Years*, *World Competition*, Volume 39, Issue 3, September 2016, pp. 327-388.

FACTORS AFFECTING EMOTIONAL BURNOUT OF NURSES

Zuzana Skorková, Katarína Remeňová, Nadežda Jankelová

University of Economics in Bratislava, Slovakia

zuzana.skorkova@euba.sk

katarina.remenova@euba.sk

nadezda.jankelova@euba.sk

Abstract: *The burnout syndrome is a state of extreme exhaustion, performance decrease and various psychosomatic diseases. It is still an actual problem of organizational management, as it entails increased costs for each organization whose members it affects. It is much more economical to discover this problem in its beginnings and to invest in burnout syndrome prevention rather than to overcome the negative consequences of burnout syndrome at its later stages. The research paper monitors the dependence between the burnout syndrome of nurses and their personal and working parameters. To analyze the dependence between nominal data, the non-parametric Chi Square Test of Independence was used and Cramer's V and Phi was used to determine the strength of association between the variables. The results indicate that the positive perception of workplace relationships affects positively the level of emotional burnout.*

Keywords: burnout syndrome; recognition; workplace relationships.

JEL classification: M12; M54.

1. Introduction

The burnout syndrome is associated with emotional exhaustion, depersonalization and low personal satisfaction. It is the result of long-lasting stress. Particularly, professions understood rather than a mission or even a public service are in risky. People who associate their profession with their life mission often get their work done at the expense of family, private life, or rest, and thus become an easy victim of a burnout syndrome. That is exactly the profession of nurse. Evidence is provided by several studies investigating the incidence of burnout syndrome in nurses that proved that more than 55% of nurses have a strong tendency to develop this syndrome (Ribeiro et al., 2014). Aiken et al. (2002) confirmed that burnout has affected almost 50% of nurses under the age of 30 and 40 % of the category over 30. Negative impact of burnout syndrome is obvious. Burnout influences the job performance of the professionals who works with other people. Bakker et al. (2005) confirmed that burn out syndrome of nurses can directly affect the direct care of patients. Symptoms from burnout syndrome have possibly caused negative effects on patient care, working environment and staffing shortages. (Jennings, 2008). Patient safety outcomes are related to the quality of nursing practice work environment and nursing leadership's role in changing the work environment to decrease nurse burnout. (Laschinger and Leiter, 2006) Based on Poghosyan et al. (2010) reducing nurse burnout could be a highly effective strategy for improving nurse-rated quality of care particularly in the contexts of a deepening nurse shortage and increasing pressure to address problems with safety and consistency of care in health systems around the world. There is a lack of researches in the area of working parameters such as quality of working

relationships at the workplace, the range of recognition from colleagues and superiors as well as a sense of fair employee performance appraisal. These parameters are lacking in previous research, so we decided to direct our research to them. Several studies are aimed on prevention of burnout syndrome. Ren et al. (2018) studied the resilience and its influencing factors - self-efficacy, choosing active coping, decreasing job stress, and enhancing educational training can effectively improve resilience of nurses. Based on Martinez-Zaragoza (2018) individual-directed and organisation-directed interventions can be combined to cope with this problem.

2. Aim and research methods

The aim of our work was to identify levels of burnout syndrome among healthcare professionals in three areas - emotional exhaustion, depersonalization and personal satisfaction. And the identification of dependencies in the key working parameters such as the quality of working relationships at the workplace, the extent of recognition from colleagues and superiors, and a sense of fair work performance assessment. The statistical sample (N = 80 respondents) is comprised of nurses working in Slovak hospitals. These three areas measure burnout syndrome and are the core of the Maslach Burnout Inventory test tool. Two-dimensional inductive statistics methods were used to test the dependence of the nominal variables by a non-parametric test - The Chi-Square Test of Independence, and the coefficients for determining the dependence of the individual variables for the nominal data were Cramer’s V and the Phi coefficient (Hanák, 2016). The Cohen scale was used to interpret the value of coefficient, while maintaining the primary rule of the Chi-Square Test of Independence, where the theoretical frequencies did not fall below a value of 5 in 80%, and for other values $X > 1$ applied. Null and alternative hypotheses were tested, which we present in individual results.

3. Findings on Burnout syndrome

80 Slovak nurses participated in the research study. For nurse age, the lowest emotional exhaustion occurs in nurses aged 30-40 (55.56% of the age group). The moderate level of exhaustion is 50 years old (40%) and a high degree of emotional exhaustion affects nurses aged 40-50. Table 1 shows the exact distribution of the level of emotional exhaustion by the age of the nurse.

Table 1: Emotional exhaustion level by age

Age	Moderate level	Low level	High level	Grand Total
up to 30	28,85%	53,85%	17,31%	100,00%
from 30 to 40	33,33%	55,56%	11,11%	100,00%
from 40 to 50	30,77%	38,46%	30,77%	100,00%
from 50 to 60	40,00%	40,00%	20,00%	100,00%
Grand Total	30,00%	50,00%	20,00%	100,00%

Source: own processing

The distribution of the results in the individual components of the burnout syndrome was also evaluated on the basis of the length of practice. In the following table we present the results of emotional exhaustion according to the length of practice.

Table 2: Emotional exhaustion level by the length of practice

Length of practice	Moderate level	Low level	High level	Grand Total
up to 5 years	29,17%	56,25%	14,58%	100,00%
from 10 to 20 years	33,33%	50,00%	16,67%	100,00%
from 5 to 10 years	28,57%	42,86%	28,57%	100,00%
more than 20 years	31,58%	36,84%	31,58%	100,00%
Grand Total	30,00%	50,00%	20,00%	100,00%

Source: own processing

3.1. Dependency of burnout syndrome factors and working parameters

The analysis of the burnout syndrome factors has shown the actual state of strain of nursing staff in the health service. Alarming results point to the critical level of burnout in depersonalization and personal accomplishment. But how do the parameters (personal development, private/state hospital, department, inpatient/outpatient department) and personnel (education, recognition from colleagues and superiors, fair evaluation) affect the level of the individual components of the burnout?

We tested the following hypotheses:

H1: The part of Burnout syndrome (emotional exhaustion, depersonalization, personal accomplishment) depends directly on the personal and working parameters.

H0: There is no significant dependence between parts of Burnout syndrome and the personal and working parameters.

We reject the alternative hypothesis H1 at the significance level of $p < .05$ and accept null hypothesis H0. There is neither statistically significant dependence between depersonalization and personal/professional factors, nor professional factors and personal accomplishment.

3.2. Emotional exhaustion and relationship in the workplace

Workplace relationships are the tipping point upon which many matters important to managers and human resource personnel balance. Several studies showed that relationships with coworkers were identified as the top driver of employee engagement. We tested the following hypotheses:

H1: High quality of professional relationship positively influence the level of emotional exhaustion (low, moderate, high) of nurses.

H0: High quality of professional relationship does not positively influence the level of emotional exhaustion (low, moderate, high) of nurses.

Table 3: Strength of Association for Emotional exhaustion and Relationships in the workplace

<i>Category</i>	<i>Statistic</i>	<i>Value</i>	<i>Asymp. Std. Error</i>	<i>Approx. T</i>	<i>Approx. Sig.</i>
Nominal by Nominal	Phi	.60			
	Cramer's V	.42			
N of Valid Cases		80			

Source: own processing with PSPP

The H0 hypothesis is rejected at a significance level of $p \leq .05$, and an alternative hypothesis H1 is accepted, because there is a strong evidence of association between

emotional exhaustion and relationship in the workplaces (p-value = .000). High quality of professional relationship in the workplace positively influence the level of emotional exhaustion (low, moderate, high) of nurses. The dependence was confirmed by moderate strength $V = .42$.

4. Conclusion

The profession of nurse fulfills in many ways the prerequisites for burnout syndrome - it is a helping profession, built on contact with other people. Many people understand it as a mission or service rather than job. The problem of this profession is mainly in the extremely low wage rate. Most of the respondents consider their salaries to be demotivating and frustrating. The burnout syndrome has three components: emotional exhaustion, depersonalization, and personal accomplishment. Emotional exhaustion affected the most the staff aged from 40 to 50. The level of emotional exhaustion in the sample was at all levels - low, moderate and high exhaustion. Alarming results have been shown in the depersonalization and personal accomplishment. Similar results, such as emotional exhaustion, are also shown in depersonalization; there is no nurse in a low level of burnout; up to 95% of respondents are hit by a high level of depersonalization. The greatest risk of burnout syndrome in emotional exhaustion area in the group of nurses with more than 20 years of experience. The level of burnout syndrome in both categories - depersonalization and personal accomplishment is on high level exactly as part of the distribution of the level of burnout according to the age of nurses. For this reason, we determined the dependence between work factors (personal development, private/state hospital, department, inpatient/outpatient department) and personnel factors (education, recognition from colleagues and superiors, perception of fairness in evaluation) parameters affecting the level of individual components of burnout. Moderate dependence was proved between emotional exhaustion and relationship in the workplace, personal development, recognition from colleagues and superiors, and perception of fairness in evaluation process.

5. Acknowledgement

We are thankful to project VEGA 1/0109/17 for funding this project.

References

- Aiken, L., Clarke, S., Sloane, D., Sochalski, J. and Silber, J. (2002) *Hospital nurse staffing and patient mortality, nurse burnout, and job dissatisfaction*, *JAMA*. 288:1987-1993.
- Bakker, A.B., Le Blanc P.M. and Schaufeli, W.B. (2005) *Burnout contagion among intensive care nurses*, *Journal of Advanced Nursing*, 51:276–287.
- Hanák, R. (2016) *Dátová analýza pre sociálne vedy*, Bratislava: Vydavateľstvo EKONÓM.
- Jennings, B.M. (2005) *Work stress and burnout among nurses: Role of work environment and working conditions`*. In: *Hughes RG, editor. Patient Safety and Quality: An Evidence-Based Handbook for Nurses*. Rockville (MD): Agency for Healthcare Research and Quality (US), Available from: <https://www.ncbi.nlm.nih.gov/books/NBK2668/>.

Laschinger, S.K.H. and Leiter, M.P. (2006) *The impact of Nursing work environments on patient safety outcomes*, *The Journal of Nursing Administration*, 2006; 36:259-267

Martínez-Zaragoza, F. (2018) *Personality and interpersonal behaviour may impact on burnout in nurses*, *Evidence-Based Nursing*, Jan; 21(1):24. 2018;21:24.

Poghosyan, L., Finlayson, S. P. and Aiken, M. H. L. (2010) *Nurse Burnout and Quality of Care: Cross-National Investigation in Six Countries`*, 33 (4), p. 288-298. doi: [10.1002/nur.20383](https://doi.org/10.1002/nur.20383).

Ribeiro, V.F., Filho, C.F., Valenti, V.E., Ferreira, M., de Abreu, L.C. and de Carvalho, T.D. et al. (2014) *Prevalence of burnout syndrome in clinical nurses at a hospital of excellence*, *International archives of medicine`*. 2014; 7: 22–22.

CRYPTOCURRENCIES, NEW TAX HEAVENS FOR INTERNATIONAL TAX EVASION

Bogdan-Florian AMZUICA¹, Roxana-Adriana MITITELU²

¹*Economic Cybernetics and Statistics Doctoral School, The Bucharest University of Economic Studies, Bucharest, Romania*

²*Accounting Doctoral School, The Bucharest University of Economic Studies, Bucharest, Romania*

bogdanamzuica@gmail.com

roxanamititelu@gmail.com

Abstract: *The objectives of this article are represented by the identification of new economic-social relations as well as of the corresponding legal and normative framework and of the forms of circumvention of the resulting taxation principles, both in correlation with the new means of virtual currencies. The results of the article aimed to identify new modern and self-contained methods of combating international tax evasion, respectively the exchange of information and the adequacy of the legal normative framework to the new economic realities. The implications are complex and represent the identification of some methods of preventing unfair competition.*

Keywords: international tax evasion, tax avoidance methods, money laundering, offshore jurisdictions, cryptocurrencies,

JEL classification: H20; H26; H87

1. Introduction

In the last period and here we are talking about the post-crisis period of 2008, it was accredited the idea that international economic interdependence led to the development and propagation of some mechanisms of transmission of the feedback of the economic-financial flows in the national systems and that the mechanisms of self-regulation nationals cannot cope with the resulting new dimensions. As a result of the crisis, there have been several situations in which commercial economic entities have tried to hide the taxable sources of economic activity within offshore jurisdictions.

Hiding the real beneficiary of the profits for various reasons are: the real beneficiary cannot have the legal status of associate and administrator in an economic entity or there are prohibitions regarding the assets he can own (measures for the confiscation of wealth, member of an organization criminal etc)

The profits obtained in another jurisdiction, the beneficiary does not want to tax them in the national jurisdiction in order to circumvent the higher taxes and to protect their own interests and accumulated assets. The society for the last three decades has been characterized by a major deficiency in the application of the rules of a coherent economy, but also in a reversal of the value system, by which rudimentary capitalism has determined the polarization of wealth. All these aspects have led to an escalation of deviant behaviour, as a "normal" phenomenon of adaptation to the state of anomaly, within the meaning of the concept promoted by Durkheim or as an innovative behaviour.

2. Cryptocurrencies, the new tax heavens

Cryptocurrency is a virtual digital currency, which can be used as a means of payment. The use of the prefix "crypto" demonstrates that this means of payment uses cryptography, which makes its falsification techniques almost impossible.

With the support of decentralized technologies, users can make secure payments and, especially, anonymised, because there is no longer the obligation to personally identify, at the counter (virtual or real) as in the case of using traditional banking services. Each virtual currency runs on a public register called *"blockchain"*.

The cryptocurrencies were designed to be created by a process called mining, which involves using the processor from a device to solve complicated statistical and mathematical problems, resulting in virtual coins.

They use protocols, proof-of-work "based on hashing algorithms (SHA-256, invented by Bitcoin, and script, the most used). Users can buy coins from various brokers, after which they can store them in cold or hot wallets. The most widely used cryptocurrencies are: Bitcoin, Ethereum, Stellar Lumens, Eos, Litecoin or Ripple.

Virtual currency (cryptocurrency), according to the law, is not an electronic currency. Thus, in Romania, Article 4 (f) of Law 127/2011 on the activity of issuing electronic money, defines electronic currency as *"an electronically stored monetary value, including magnetically, representing a claim on the issuer, issued upon receipt of funds for the purpose performing payment transactions and which is accepted by a person other than the electronic money issuer"*.

Authorities around the world fear that virtual currencies could become the new tax havens. It's just that this is already happening. British Prime Minister Theresa May and Indian Prime Minister Narendra Modi are among the world leaders who have expressed concerns about the rise of virtual cash moving into offshore structures.



Figure 1: Bitcoin price and capitalisation

Source: www.coinmarketcap.com

The US Congress even held hearings in March 2018, and Treasury Secretary Steven Mnuchin urged the world's 20 largest economies to work together to ensure that virtual currencies do not become "the next Swiss bank account." The concern comes after a series of measures of international repression against tax havens and the opaque banking sector.

The offenders were the first to feel the potential of virtual currencies, and their involvement has grown steadily, according to a three-year study by *the Foundation for the Defence of Democracies*, an American think tank. Therefore, better oversight of trading platforms would help to legitimize the industry.

On the other hand, the technology behind cryptocurrencies, including the "blockchain", offers significant improvements that could help millions of developing countries without bank accounts, and regulators can use cryptography and artificial intelligence to improve digital security and identify transactions with dirty money extremely quickly.

Before reaching there, however, the phenomenon must be analysed in its entirety. These digital offers are typically designed in a decentralized manner and are therefore not supervised by any central bank. Like cash transactions, cryptocurrency transactions are anonymous, which could result in a new money laundering vehicle.

In today's world, there is a demand for new ways of hiding assets, after the US and European authorities are constantly struggling with tax havens and non-transparent

banks. The implementation of the "know the client" and anti-money laundering rules forced offshore financial institutions to disclose customer information. The campaign prompted many large financial companies to limit customers' access to Switzerland's secret banking system, which made it more difficult to hide funds from the eyes of authorities, courts or life partners.

Virtual currency exchanges are regulated by fairly lax rules, but their application has not been consistent, especially outside the U.S. The use of virtual money to store offshore assets is evolving rapidly, by introducing so-called privacy coins, such as ZCash and Monero, which use methods such as encryption to make them impossible to identify.

For the first time in history, it is possible for anyone to be able to store their money privately, as if they had their own bank, because people are willing to pay for the confidentiality of capital investments. Even if ZCash hinders the impenetrability of its encryption technology, governmental oversight is still needed.

Bitcoin, the most popular virtual currency, is anonymous, though it can be tracked, using the electronic public blockchain registry, which tracks each transaction. Even though everything revealed by buyers and sellers are letters and numbers, law enforcement agencies have developed a technology for tracking and confiscating illicit Bitcoins.

Existing laws require banks to report suspicious activity, including withdrawals of over \$ 10,000, while digital currency exchanges are required to keep customer records and take similar measures. Once a Bitcoin currency is purchased, there is software that can detect and track the owner. The study of *the Foundation for the Defence of Democracies* on money laundering recommends to the authorities to monitor the criminal uses of virtual currencies, but to respect, at the same time, financial innovation.

When credit cards appeared, there were abuses or scams, they still exist today, but authorities around the world have developed and implemented methods and means to deal with them.

The study looked at money laundering through Bitcoin ATMs, exchanges, gambling sites and mixers - services that convert digital currency to another - and found that illicit use increased steadily between 2013 and 2016.

It was also concluded that the conversion services in Europe had the highest share of illicit Bitcoin, more than five times more than the North American services. Asia had a very small share in money laundering, even though the services in this region had the most transactions.

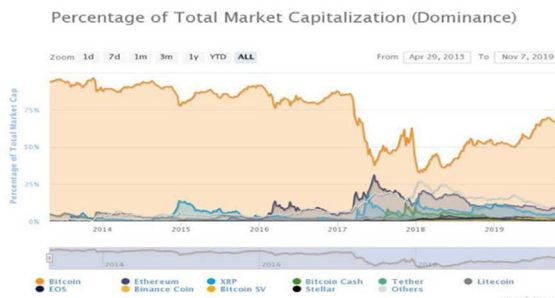


Figure 2: Percentage of total market capitalization as dominance
Source: www.coinmarketcap.com

The huge gains made by cryptocurrencies in 2017 captured the interest of regular investors, but enthusiasm was dampened by volatility and concerns about its

usefulness as a currency. The regulatory authorities have carefully followed the development of these currencies and have not yet elaborated a definition.

3. Conclusions

The mechanisms of international tax evasion identified in this article highlight the use of legal vehicles registered in offshore constituencies as well as the use of alternative methods of transferring funds and virtual currencies.

Bitcoin and cryptocurrencies are increasingly used in international tax evasion as well as in the transfer of funds because, unlike traditional forms of cross-border transfer, they do not have the purpose of regulating through KYC or reporting financial-fiscal data in both jurisdictions, respectively the original jurisdiction and the jurisdiction of destination.

Another form of tax evasion at international level is the erosion of the tax base through portrayals of transfer prices, based on cryptocurrencies

Regarding the use of the term *tax evasion* in the context of this material we mention as being used both in the acceptance of legal tax evasion and as fraudulent tax evasion.

Regarding the activity described and identified above, we mention that it can be from both instances and that the distinction is given by the source and the purpose pursued by the initiator. The border between the two is also interpretable.

As modern methods of combating the phenomenon described above, we conclude that in our opinion the most effective are the exchange of information and international regulation both within international bodies and as a form of regional cooperation, in response to economic realities, but without stifling innovation: technological and financial.

The exchange of information consists in creating databases accessible by the members of the association as well as by identifying each tax subject at international level through a unique number, the so-called TIN (tax identification number).

The international legal regulations must follow the FATCA (Foreign Account Tax Compliance Act) type legislation regarding the mechanism for combating and disseminating subjects as well as much stricter regulations based on international agreements regarding B.E.P.S. The central point of these regulations is the agreement, so that each subject of the agreement does not undermine the set of objectives pursued.

The application of new technologies at the state institutional level will undoubtedly lead to financial-fiscal transparency as well as to a form of self-regulation of competition on the free market: in this sense the new technologies allow total transparency (blockchain) and the irreversibility of transactions unless all parties agree to it.

References

- Brunton F. (2019) *Digital Cash: The Unknown History*, Princeton University Press;
Crypto J.A., Wallet K.S.(2019) *Libra Coin Revolution*, Princeton University Press;
Houben R., Snyers A. (2018) *Cryptocurrencies and blockchain – Legal context and implications for financial crime, money laundering and tax evasion*, European Parliament Press;
Merton R.K. (1936) *The Unanticipated Consequence of Purposive Social Action*, American Sociological Review;
Bloomberg International, www.bloomberg.com
CoinmarketCap, www.coinmarketcap.com
European Union, www.ec.europa.eu
Internal Revenue Service USA, www.irs.gov

AUTOMATED VALUATION MODEL FOR RESIDENTIAL REAL ESTATES

Silviu-Ionuț Băbțan

Accounting (Real Estate Valuation) Department, The Faculty of Economics and Business Administration, Babeș-Bolyai University, Cluj-Napoca, Romania

silviu.babtan@econ.ubbcluj.ro

Abstract: *The general aim of this research project is to point out a series of essential and relevant elements to have a better understanding on several issues of valuation. His particular purpose is to highlight the content of a significant and actual valuation technique, i.e. Automated Valuation Model, and the possibility of its application in Cluj-Napoca, which is one of the most dynamic cities in Romania, especially when it comes to residential buildings. In our paper we will try to create an algorithm and for that we will use a software program and, in the end, we expect to simplify the valuation process. We want to make it easier to calculate the valuation by trying to develop a software program.*

Key words: Automated Valuation Model (AVM); property valuation; software program; market value.

JEL Codes: C88 Other Computer Software; R31 Housing Supply and Markets; R32 Other Spatial Production and Pricing Analysis.

1. Introduction

In the real estate field, at least three current and relevant global trends can be easily identified: an increase in automation, an increase in regulation and an increase in the demand for transparency and verifiability. The use of automation was based on the increased availability of appropriate software solutions, a better understanding of the statistical methods applied and the accumulation of digitally archived data, which allows a variety of applications, such as in property appraisals. The desire for transparency and data verification is met in certain areas such as banks, insurance and evaluation service providers, systems and organizations (Power, 1994).

In this paper we propose deals with the problem of the automatic valuation of real estate, which in international language represents AVM - Automated Valuation Model, and has two objectives: (i) to clarify the content of this solution of valuation of assets and the diffusion of its use in international practice, and (ii) to investigate the possibility of applying AVM in Romania and can integrate it in the national evaluation standards, proposing in this regard a computer model with an appropriate software solution, as well as a platform where be managed a database of residential real estate, which can be accessed by both a real estate professional and the ordinary population.

The purpose of valuation is to estimate the value for a specific need, such as selling or buying price, mortgage loans, tax purposes, settling estates, the determination of a rental rate or a financial statement. The essence of an evaluation process is to estimate the value of the property rights, therefore the rights involved, and the specific type of value must be clearly identified (American Society of Real Estate Counsellors, 2011).

The valuation process starts at the same time as the appraiser identifies the subject matter to be evaluated and ends when reporting the conclusion to the client (American Society of Real Estate Counsellors, 2011).

In this study we will measuring housing value using an Automated Valuation Model.

It's important for appraisers to estimate value for many properties using Automated Valuation Models that has evolved over the past 50 years (Moore, 2006, p 43).

Automated Valuation Models are now widely used by real estate appraisers, by the general public, Government, and it is complimentary to traditional valuations. Removing the human factor, it's claimed by some advocates, that Automated Valuation Models reduce incorrect values which could arise on human judgement (I.A.A.O., 2003).

The type of property on which this research is focused is the real estate, namely the one-room and two-room apartments in the city of Cluj-Napoca from Romania.

Contributions of our research could be the following:

- A database of residential properties, especially one and two bedroom apartments, for Cluj-Napoca City, which can be accessed by appraisers, local authorities and other interested people;
- Support the evaluation by automatic methods;
- Predicting sales prices in a certain geographical area;
- This type of evaluation will shorten the time of writing a classic evaluation report, especially for those assessments for the purpose of bank guarantee and mortgaging.

2. Literature review

The term Automated Valuation Model has entered as a current of valuations only in the last years of the 20th century. Prior to this, similar, if not identical, methods were described as computer-assisted mass evaluation or just mass evaluation. Currently, academics and practitioners use the term automated evaluation model to underline the high degree of process automation, even if the models are not usually without human interaction.

Automated Valuation Models have origins in United States of America, the first application being only in 1981 and after that began to be developed in the United Kingdom, in the 1990s (Worzala et al., 1995, pp. 185 - 201).

From our point of view, Automated Valuation Model would be an advantage for evaluators, since the valuation process would be done easier. AVMs is the most convenient for residential properties, like apartments with one and two rooms. These properties are suitable to such an automated system because multiple properties from a certain area of a city with similar characteristics can be identified.

Automated Valuation Models have been developed and advanced for several reasons, in particular for fast and low-cost alternative to a full valuation (Worzala et al, 1995, pp 185 - 201).

Currently, AVMs are commonly used in the US, Canada, Australia and in several EU member countries, such as the UK and Denmark. AVMs are also seen as an effective response to asset quality analyzes of the European Central Bank (Brucato, 2015), which may gradually lead to greater interest in other EU member countries.

Royal Institution of Chartered Surveyors (2013) identifies the following areas where AVMs are used: in-arrears assessment in banks, revaluation for credit decision in banks, full valuation audits in banks, capital tax planning for the individual, identification of fraudulent activity in banks, determining capital adequacy ratios in banks, estimating relocation compensation by government, cost / benefit analysis for potential public expenditure, mark-to-market bank's portfolio of properties in banks, mass appraisal for local taxes by government.

Credibility of an AVM is dependent on the data used and the skills of the modeler producing the AVM. AVMs should be developed by appropriately qualified market

analysts, for example, appraisers/valuers, who use statistically based applications to analyze data and select the best simulation of market activity for the analysis of location, market conditions, and property characteristics from previously collected data. AVMs are designed to generate value estimates for properties at specified points in time (retrospective or prospective dates as required by client).

Downie and Robson (2008) describes their findings on AVMs and the integration within the valuation process, from an multinational perspective. There were 473 valuer responses, representing both lending and valuation organizations, described as senior professional members. The results of the study included the following findings:

- 90% agreed that the ability to evaluate comparable was a major advantage over Automated Valuation Models
- 87% agreed that physical valuations were more accurate than Automated Valuation Models, as a result of local knowledge

The definition of an AVM has changed over time. The definition in Standard on Automated Valuation Models (revised 2018), it's describe in Chapter 3.1 as an AVM is: a mathematically based computer software program that market analysts use to produce an estimate of market value based on market analysis of location, market conditions, and real estate characteristics from information that was previously and separately collected. The distinguishing feature of an AVM is that it is a market appraisal produced through mathematical modeling.

The Royal Institution of Chartered Surveyors Automated Valuation Model Standards Working Group describes as: AVMs use one or more mathematical techniques to provide an estimate of value of a specified property at a specified date, accompanied by a measure of confidence in the accuracy of the result, without human intervention post-initiation. (RICS, 2013).

It should be noted that both definitions of an AVM exclude any direct valuer involvement in arriving at an estimate of value.

These computer-assisted quantitative methods have their advantages in that they are systematic and rapid, reducing the dependence on the contribution of the workforce in ensuring the evaluation (Tretton, 2007). By eliminating the human element, it is claimed that AVM reduces inaccuracies that may arise due to trust in human judgment. Bogin and Shui (2018) underline the utility of AVM from the perspective of financial lenders - banks. In the American case, we see how the evaluators tend to over-evaluate bank guarantees, in favor of bank debtors. As such, they benefit from the existence of developed AVM models that can run them and quickly verify the estimator's estimate.

Taxation is another typical AVM application (Downie & Robson, 2007) that has again excited the use of AVM in lower risk functions. While the regulatory environment may be considered restrictive, some AVM manufacturers consider it an opportunity to create more AVM tools to help comply with these regulations, such as taxation, implicit loss modeling, obligations, and management failure (Brucato, 2015).

3. Methodology

As we presented above, AVM is a software that analyzes and aggregates information about transactions and real estate deals, assigning value to a property. It is currently used for residential real estate in active markets, which can generate sufficient information to obtain a statistically relevant population. The tendency is to use this instrument to estimate the value of the properties for the purpose of financing their purchase (guaranteeing loans).

Automated Valuation Model will combine a set of algorithms, characteristics, nearby sales, neighborhood features and homes listed for sale, and in the end offers an option for valuing individual homes (Galín et al, 2008, p 4).

At this moment we are working on an empirical study based on the regression analysis for the real estate market in Cluj-Napoca, especially for one- and two-bedroom apartments.

Our research investigates the physical, technical and social characteristics of residential buildings, so that the specific elements will make the difference in the sale prices.

Starting from the Argus database that we will use, we will try to analyze about 1000 one- and two-room apartments, located in all the districts of Cluj-Napoca, properties defined by over 30 specific characteristics.

Valuation market encompass a variety of methods including as multiple regression analysis, Computer Assisted Mass Appraisal (McCluskey et al, 1997), a rapidly evolving variety of machine learning, artificial neural networks (Worzala et al, 1995).

Multiple regression analysis has been extensively used and is the traditional method of choice. Typically, a multitude of property characteristics are considered in the modelling.

McCluskey et al (2013, pp 239 - 265) note that the relationship between property value and its explanatory attributes is highly complex and generally non-linear, which calls for more insightful approaches than the traditional Multiple regression analysis. For example, artificial neural networks don't rely on any of the assumptions made by Multiple regression and have been explored.

Most of the automated valuation models used are those for residential properties. A typical AVM regression model would use multiple linear regression using ordinary market (OLS) methods. These regression models are also used by the academic community as a benchmark against which new, emerging methods can be compared in automated assessment. Due to their well-tested and well-understood mechanics, these traditional methods are also favored by academics devoted to AVM (Kauko and d'Amato, 2008, p. 4-6).

Through this study, we will try to demonstrate a closer value obtained by a software program and the market value of the one and two-rooms apartments. This study will be useful and will provide support to valuers evaluating real estates in the city of Cluj-Napoca.

In the city of Cluj-Napoca, we want to use this valuation tool to estimate the value of the properties for financing their purchase (guaranteeing loans), as well as for taxation.

4. Results, conclusions and anticipated difficulties

This study will be useful and will provide support to valuers evaluating real estates, especially single and double rooms, at the end of the three years of research.

Over the last 20 years, property valuation has evolved from traditional methods based on comparable evidence, into mechanically oriented AVMs.

With this study we want to observe that the values obtained through the automated valuation are close to those obtained through the market approach.

The limitations of Automated Valuation Models are well known and understood. For example, the limited ability to account for external influences, the limited ability to address a property's condition, limited data coverage in some areas, the inability to confirm or deny whether a property exists. The crucial test is, can AVMs forecast accurately?

We expect possible limitations and difficulties. First of all, we may have difficulty in obtaining the information and values for the confidentiality of the data, and some of them contain personal information.

There is little available published material on the accuracy of Romanian Automated Valuation Models. Indeed, there appears to be a reluctance to provide information or open-up methodologies more widely to independent scrutiny.

Secondly, a reluctance from the questioned appraisers, with possible inaccurate results.

We will try to create a software program that simplifies the application of AVM in the Romanian context. At the implementation part of the software program that will facilitate this type of evaluation we will try to collaborate with certain companies in the IT market, of Cluj-Napoca.

Finally, this program can be quantified and used by any wish (evaluators, real estate agents, banking, public and academic institutions, professional associations, individuals, etc.).

Contributions of our research could be the following: A database of residential properties, supporting the evaluation by automatic methods, the prediction of the sale prices in a certain geographical area.

This type of evaluation will ease and shorten the time of writing a classic evaluation report, especially for those assessments for the purpose of bank guarantee and taxation.

References

- American Society of Real Estate Counsellors 2011, *Statistical Primer for Real Estate Problem Solving*, Boston.
- Appraisal Institute of Canada, 2002, *Automated Valuation Models*.
- Asociația Națională a Evaluatorilor din România – ANEVAR, 2015: http://site2.anevar.ro/sites/default/files/page-files/anexa_2_gev_520_2015.pdf
- Bogin, A & Shui, J 2019, *Appraisal Accuracy and Automated Valuation Models in Rural Areas*.
- Brucato, L 2015, *Automated Valuation Models (AVMs), Use & Usage*.
- Downie, M & Robson, G 2008, *Automated Valuation Models: An International Perspective*, Council of Mortgage Lenders, London.
- Galini, J H, Molloy, R, Nielsen, E, Smith, P, & Sommer, K 2018, *Measuring Aggregate Housing Wealth: New Insights from an Automated Valuation Model*, U.S. Federal Reserve Board's Finance & Economic Discussion Series, No. 1., pp. 1–42.
- I.A.A.O. 2003 *Standard on Automated Valuation Models*, International Association of Assessing Officers, MO, Kansas City.
- Kauko, T & d'Amato, M eds, 2008, *Mass Appraisal Methods, An international perspective for property valuers*, Real Estate Issues. West Sussex: John Wiley & Sons.
- Matysiak, G A and Wang, P 1995, *Commercial property market prices and valuations: analyzing the correspondence*, Journal of Property Research, Vol.12, No.3, pp.181-202.
- McCluskey, W J, McCord, M, Davis, P T, Haran, M, & McIlhatton, D 2013, *Prediction Accuracy in Mass Appraisal: A Comparison of Modern Approaches*, Journal of Property Research, 30, No.4, pp. 239–265.
- Myers, D 1998, *Housing Market Research: A Time for a Change, Urban Land, Quebec*.
- Moore, J M 2006, *Performance Comparison of Automated Valuation Models*, Journal of Property Tax Assessment & Administration, [s. l.], v. 3, n. 1, pp. 43–59.
- Power, M, 1994, *The Audit Explosion*, London, Demos.

Tretton, D 2007, *Where is the world of property valuation for taxation purposes going?*, *Journal of Property Investment & Finance*, Vol.25, No.5, pp. 482-514.

Worzala, E, Lenk, M, & Silva, A 1995, *An exploration of neural networks and its application to real estate valuation*, *The Journal of Real Estate Research*, Vol.10, No.2, pp .185-201.

RICS 2013, *Automated Valuation Models (AVMs)*, The Royal Institution of Chartered Surveyors, London.

Standard on Automated Valuation Models (AVMs) 2018, *Journal of Property Tax Assessment & Administration*, V. 15, No. 2, p. 67–101.

THE ANALYSIS OF STOCK MARKET PERFORMANCE OF PHARMACEUTICAL COMPANIES IN ROMANIA

Cătălin-Florin BĂRNUȚ

Doctoral School of Economic Sciences, Faculty of Economic Sciences, University of Oradea, Romania

barnut_cata@yahoo.com

Abstract: *The pharmaceutical industry has become a highly competitive environment, which is why performance represents the key element to stay on a market. Evaluating the performance of the economic entities from this sector is of high importance for the management, shareholders, trading partners and creditors. This study focuses on analyzing the financial statements and the evolution in the last ten years of the pharmaceutical firms listed on the Bucharest Stock Exchange (BSE). Performance is analyzed using the main stock market indicators such as Return on Equity (ROE), which is the main performance measurement considered significant for the industry, and other more in order to analyze performance and generate conclusions for the decision makers, so they are able to outperform the market and provide consistent gains for investors.*

Keywords: pharmaceutical industry; pharmaceutical company; financial statement; stock market performance; economic growth.

JEL classification: I10; L65; P46.

1. Introduction

Deari and Dincă (2015) have analyzed the financial performance of 40 selected Romanian companies for the 2009-2013 period. They found that the companies with higher current to total assets ratio have higher assets turnover and return on assets. The performance of an economic entity can be analyzed by using its financial statements, namely with the help of the profit and loss account. An economic entity is performing if it has the ability to make profit (it's cost effective) and if it has the ability to pay its debts on short and long term. The profit and performance of the company wins customers' trust (Neacșu, 2015).

Pharmaceutical industries have been topmost players in the health care segment in an epoch of aging populations, rising health care costs, and the ongoing development of new and extremely profitable medicines. Therefore, the investment in shares and securities of pharmaceutical companies seems to be cost-effective.

Romanians bought in 2018 more medicines than in the previous year. The value of the medicines issued to patients in Romania increased by 13.8% compared to 2017, exceeding 16 billion lei at the distribution price, according to Pharma&Hospital Report, made by CegeDim. In the first place in the top of the pharma players in 2018 from Romania is the company Abbvie (USA) with medicines sold for over 1 billion lei, followed by Sanofi (France) with 809 million lei and Merck & Co. (USA) with 722 million lei. The volume of medicines released to patients in Romania in 2018 was 612.7 million boxes, up 5.9% compared to 2017, increasing the total number of treatment days (5.4%). The composition of the first 3 corporations in terms of value for 2018 changes due to the acquisition of Zentiva from Sanofi by Advent International, one of the largest and most experienced global private equity investors for 1.9 billion euro.

2. Methodology

Financial performance is a vast topic developed at all academic levels and in the professional practices. The main objective of this study is represented by the analysis of the financial performance of companies from the pharmaceutical sector in Romania. The population on which the study was conducted targets 5 economic entities which produce pharmaceutical products and are also listed on BSE. Based on the annual reports published for the period 2009-2018, the performance of the companies was analyzed by calculating a series of indicators. The results were compiled and compared in order to determine the evolution of each company.

3. The indicators and interpretation of the results

An indicator that measures the performance of companies, used as a criterion for ranking them in terms of their economic importance is the *turnover*. The turnover represents the value of sales made over a period of time by an entity. During the 10 year period, the companies shifted places but almost all of them showed an upward trend, lead by the increase in demand. In 2018, the highest turnover value was registered by Zentiva (461 mil. lei) who also had the highest percentage increase in turnover (162% increase from 2009 to 2018). In 2018, the lowest turnover was registered by Remedia (99 mil. lei). Until 2015, the highest turnover was registered by Ropharma (434 mil. lei) and the smallest by Biofarm (150 mil. lei). Antibiotice, Biofarm and Zentiva showed a continuous growth of their turnover.

The *financial stability ratio* expresses the extent to which the company has sufficient permanent or stable financial resources compared to total resources. The minimum acceptable rate for an industrial company is 50% and 66% would be the safe value. In 2018, the highest rate was registered by Biofarm (80%), and the lowest by Ropharma, showing a steep decrease (from 69% in 2016 to 50% in 2018). Zentiva was the only company that had a downward trend (85% in 2009 to 71% in 2018). Antibiotice showed a constant rate of over 60% while Remedia showed a strong growth (from 25% in 2009 to 61% in 2018).

Return on assets (ROA) is an indicator of how profitable a company is relative to its total assets. ROA gives a manager, investor, or analyst an idea as to how efficient a company's management is at using its assets to generate earnings. Higher ROA indicates more asset efficiency. The dynamics of ROA is shown in Figure 1.

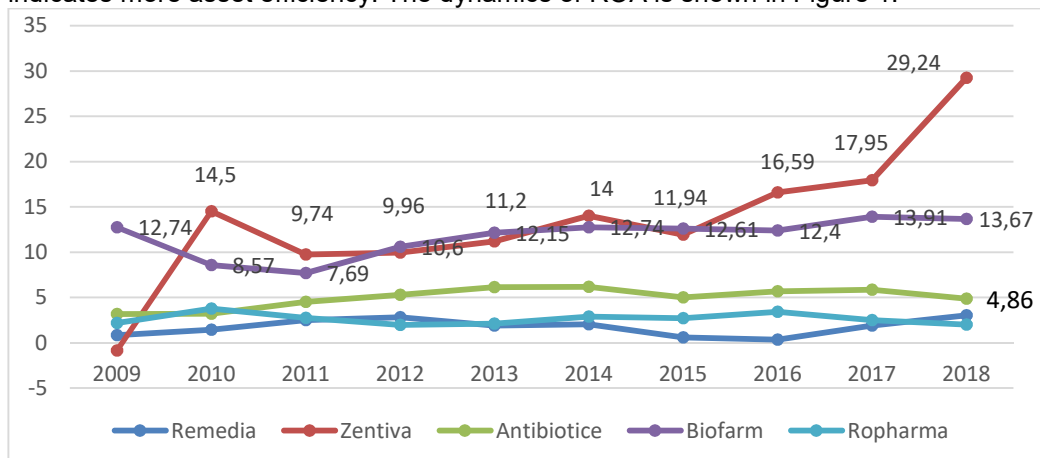


Figure 1. The return on assets of the producers of pharmaceutical products listed on BSE

Source: Authors' elaboration based on data from BSE - www.bvb.ro

The highest performer in the total assets is Zentiva, the second highest is Biofarm, showing constant and close values to Zentiva, except the year 2018. The third highest is Antibiotice – 4,86% in 2018. The least performer is Ropharma with a value of 2% in 2018.

Another indicator that expresses the ability of an economic entity to generate profit is the *return on equity (ROE)*. ROE is a measure of financial performance calculated by dividing net income by shareholders' equity. Because shareholders' equity is equal to a company's assets minus its debt, ROE could be thought of as the return on net assets. The higher the return on equity is, the more financial resources the company has at its disposal (Vasilache, 2009). The dynamics of ROE is shown in Figure 2.

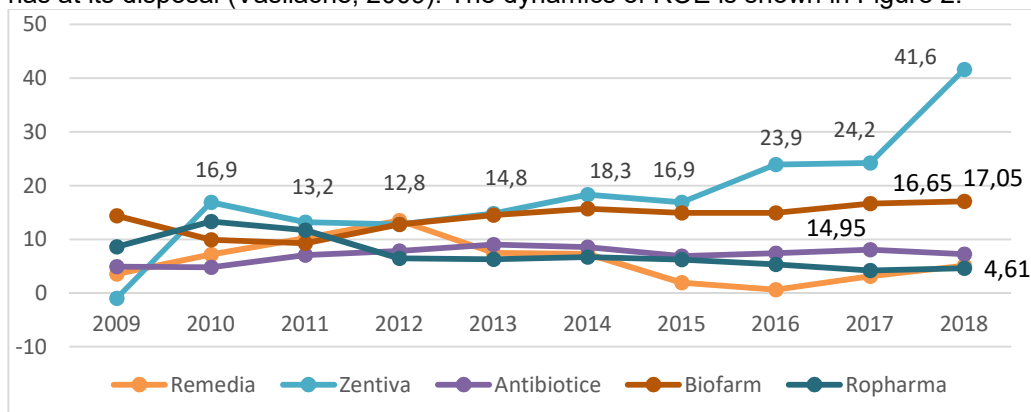


Figure2. The return on equity of the producers of pharmaceutical products listed on BSE

Source: Authors' elaboration based on data from BSE - www.bvb.ro

For all the analyzed companies we can observe an upward trend regarding the return on equity. In 2018, the highest percentage was recorded by Zentiva, followed by Biofarm and Antibiotice. The lowest performance was recorded by Ropharma (4,61% in 2018), which has been showing a downward trend in the last 10 years.

Another important indicator is *earnings per share (EPS)* ratio. It is calculated by dividing a company's profit by the outstanding shares of its common stock. The resulting number serves as an indicator of a company's profitability. The higher a company's EPS, the more profitable it is considered. The dynamics of EPS is shown in Figure 3.

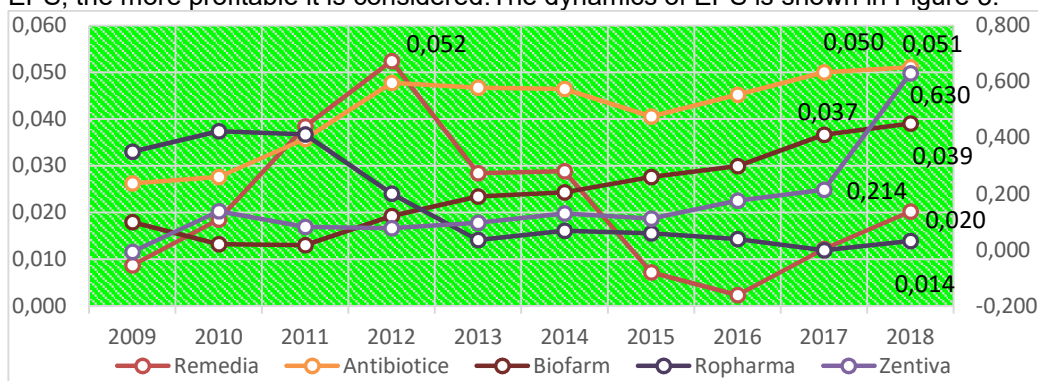


Figure3. The EPS ratio of the producers of pharmaceutical products listed on BSE

Source: Authors' elaboration based on data from BSE - www.bvb.ro

Zentiva registered the highest values of EPS in all the years (as shown according to the right axle of the figure), reaching 0,63 lei/share in 2018. The second highest is Antibiotice with a value of 0,05 lei/share in 2018, followed by Biofarm (0,04 lei/share). A downward trend was registered by Ropharma and Remedia. For 2018, the lowest value was recorded by Ropharma (0,014), Remedia managing to raise its EPS values between 2016 and 2018.

Price-to-Earnings Ratio (PER) is the ratio for valuing a company that measures its current share price relative to its EPS. A high PER could mean that a company's stock is over-valued, or the investors are expecting high growth rates in the future. A low PER can indicate either that a company may currently be undervalued or that the company is doing exceptionally well relative to its past trends. The dynamics of PER is shown in Figure 4.

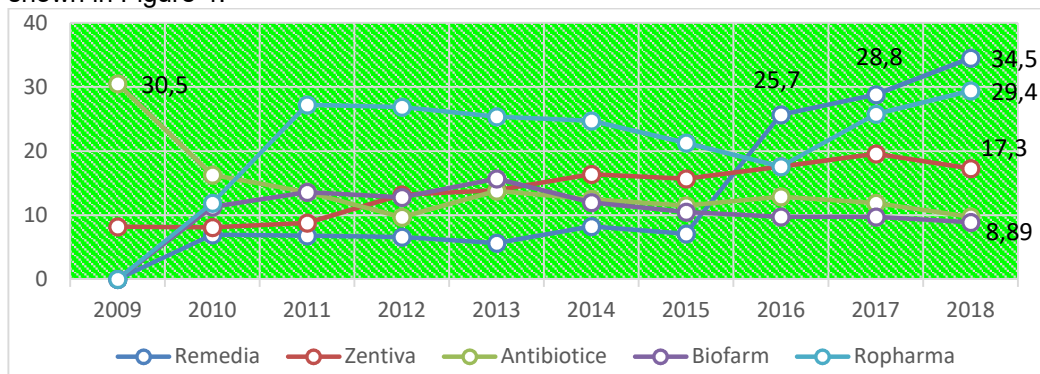


Figure4. The PER ratio of the producers of pharmaceutical products listed on BSE

Source: Authors' elaboration based on data from BSE - www.bvb.ro

The highest value of PER ratio was recorded by Remedia. We can notice that Remedia had a massive increase from 2015 to 2018 which could mean that the stock might be over-valued. The second highest is Ropharma, which registered big values every year. Zentiva had an almost constant trend during the ten years of analysis. The lowest value was registered by Biofarm, followed closely by Antibiotice.

4. Conclusions

Following the analysis of the various indicators we can conclude that Zentiva ranked first at almost all of them by having the biggest turnover, having financial stability, biggest ROA, ROE, EPS and an almost constant value of PER. On the opposite pole we find Ropharma. Although its 2018 turnover puts it on second place, Ropharma registered a decrease for all the indicators and the lowest values for 2018. In the middle, we have Antibiotice and Biofarm, financially stable companies, showing slight but steady increase in performance year by year. Although Remedia registered a big decrease in turnover because of the separation of wholesale and retail activities, it ranked on the second to last place with steady increase in performance in the last three years.

The study has reached its objectives by providing significant information regarding the performance and evolution of the analyzed companies, facilitating future investments for the decision makers. As limits of the research, it is important to mention the existence of many other indicators that were not covered in the analysis, which together would form a more detailed picture regarding the performance of the analyzed companies.

References

Deari, F. and Dincă G., 2015. Financial performances of Romanian wood industry companies. *Bulletin of the "Transilvania" University of Braşov*, Series V, Vol. 8 (57), No. 1, pp. 147-158.

Dincă, M.S. and Dincă, G. 2014. The analysis of economic performances using return on investment. *Journal of Applied Economic*, 2(28), pp. 244-253.

Neacşu, N.A., 2015. Implementation of ISO 22000 - a tool to increase business efficiency and customer satisfaction. A Case Study: SC Prodlacta Brasov. *Bulletin of the „Transilvania” University of Braşov* , Vol. 8 (57), Series V, No.1, pp.105-110.

Vasilache, V., 2009. The Rate of Financial Return – An Illustration of How Well Capital is invested in the Company. *Contabilitatea, expertiza și auditulafacerilor*, pp. 38-43.

www.bvb.ro/FinancialInstruments/Markets/Shares [Accesed 26 October 2019]

www.cegedim.com/finance/documentation/Pages/reports.aspx[Accesed 26 October 2019]

THE INFLUENCE OF REGIONAL GDP ON MAIN PERFORMANCE INDICATORS OF THE COMPANIES FROM NORTH-WEST OF ROMANIA

Ioana-Cristina CRĂCIUN (TIMOFEI), Beatrix-Monica SPITZER

Doctoral School of Economic Sciences, University of Oradea, Finance Department, Romania

ioana.cristina.craciun@gmail.com

beaspitzer@gmail.com

Abstract: *This study aims to identify and analyze the effect of Regional Gross Domestic Product (GDP) growth towards companies performance, based on 10 companies of North-West Of Romania, selected on the criterion of their listing on the Bucharest Stock Exchange and based on their contribution to regional development, for the period 2014-2018. The hypothesis is the GDP growth have significant impact on the performance of the companies (expressed through traditional measures of performance ROA - Return on Assets and ROE - Return on Equity). In this study, hypotheses are tested using Eviews support program for panel data analysis; two regression models was used in order to study the dependence between mentioned variables. The results showed that GDP growth have an negative impact effect on company's performance.*

Keywords: ROA Return on Assets; ROE Return on Equity; Panel data; Regression model.

JEL classification: C15, C33, C52, C58, C87, D21.

1. Introduction

Performance of a company or an industry is very important as it shows the results achieved over a time period. Company's performance is dependent upon micro economic variables, controlled by management and macro-economic variables, which the management is not able to control (Hunjra, Chani, Javed, Naeem and Ijaz 2014).

The objective of this paper is to investigate the relation between Regional Gross Domestic Product (GDP) and several performance indicators (reflected by ROA and ROE), between 2014 and 2018, by using fixed and random effect models with panel data. The study is using 10 companies of North-West Of Romania, selected on the criterion of their listing on the Bucharest Stock Exchange and based on their contribution to regional development. The selected companies operates in construction, industry, transport and trade sector.

In terms of regional economy, the North-West Region ranks fourth in Romania in terms of GDP and fifth in exports, and is aiming to become one of the most dynamically developing regions in Central and Eastern Europe. (PANORAMA/ SPRING 2019/ No. 68).

2. Literature review

Performance or profitability of the company has always been concern for researchers and it has been extensively studied. Profitability is the economic justification of the existence and sustainability of any company (Sabău-Popa, Boloş, Bradea 2016).

According to financial and economic literature, the relation between macroeconomic factors and their effect on performance of companies, produced different results.

Sufian, F. (2011) analyzed the commercial banks of Korea over the period 1992-2003, using linear regression. The results revealed negative impact of GDP on ROA.

Masood, O. and Ashraf, M. (2011) used the balanced panel data regression model in order to examine the Islamic banks profitability determinants, for the period of 2005-2010, of different countries. The results shows that GDP contribute negatively on ROA and positively on ROE.

Kanwal, S. and Nadeem, M. (2013), studied the impact of inflation rate, GDP and real interest rate on profitability indicators: ROA, ROE and equity multiplier (EM) ratios in 3 separate models. They used Pooled Ordinary Least Square (POLS) method; the empirical findings indicate a strong positive relationship of real interest rate with ROA, ROE and EM; real GDP is found to have an insignificant positive effect on ROA, but an insignificant negative impact on ROE and EM.

Munyambonera, E. F. (2013) used an unbalanced panel of 216 commercial banks drawn from 42 countries in Sub-Saharan Africa, for the period 1999 to 2006, and find a negative relationship between GDP growth and bank's profitability.

Simiyu, C.N. and Ngile, L. (2015) find that real GDP growth rate has positive but insignificant effect on the ROA in the Nairobi Securities Exchange (NSE), for years 2001 to 2012.

Combey, A. and Togbenou, A.(2017) investigates short-run and long-run relationship between GDP and banking sector profitability(measured by ROA and ROE) in Togo, from 2006 to 2015, by using Pool Mean Group estimator. Results show that, in the short-run, ROA and ROE are not related to macroeconomic variables. In the long-run, GDP growth affect negatively and statistically significant ROA and ROE.

Socol, A. and Dănulețiu, A. E. (2013), examines how is affected banking profitability by the CRR Credit risk ratio. They used two regression models and the results shows that CRR Credit risk ratio has a negative impact on banks' ROA and ROE, which could be explained through the contribution of the non-performing loans to the decreasing of the profit.

3. Research Methodology and argument for the Research

The purpose of this paper is to examine the influence of Regional Gross Domestic Product (GDP) growth towards companies performance, based on 10 companies of North-West Of Romania, for the period 2014-2018. The data for the study was extracted from the annual reports of all the companies, downloaded from the BSE website (for ROA and ROE) and from National Commission for Strategy and Prognosis and National Institute of Statistics (for GDP of the North-West of Romania).

As a qualitative research, data collection and analysis, observation and comparison was used. The econometric analysis is based on two regression models for estimating panel data, using Eviews 7.2 support program, based on 50 observations. All variables are measured in percentages.

In the literature, either the fixed or random effect methods are used to estimate a panel data model. To determine which model is more appropriate for the data series, is used the Hausman test (Bădulescu, D. & Simuț, R. & Morutan, R.A. 2018). In this study, the fixed effects model is chosen over the random effects model.

This research method permits the study of the existence of relationship between the dependent variable y (explicit, endogenous or resultative), in this case is considered ROA (Return on assets) and ROE (Return on equity) and one or more variables x_i called independent (explanatory, exogenous or of influence) which in this case is used the growth rate of GDP from the region of North-West of Romania.

- $ROA = EBIT / Total\ assets;$
- $ROE = Net\ Income / Share\ holders\ Equity$ (Boloș, Sabău-Popa 2013);
- $GDP\ Growth = (GDP - GDP\ the\ previous\ year) / GDP\ the\ previous\ year$ (Soedarsa, Arika 2015).

To test the relationship between company's performance and macroeconomic determinant, we estimate a linear regression model in the following form: $y_{it} = \beta x_{it} + \varepsilon_{it}$
 $i=1, \dots, N,$

Where: y_{it} is the efficiency (total, technical or allocative, as appropriate) of company i at time t ; x_{it} is the matrix of the explanatory variables (determinant); β is the vector of coefficients; ε_{it} is a random error term representing statistical noise; the index i is a cross-sectional dimension of companies listed on the BSE, while t index represents time, 2014-2018; N is a number of observations in the data set (Sufian, Kamarudin 2012).

The described model may be the object of decision making support application, maybe used in analyses of the data mining type in order to identify significant clusters, decision making trees, pertinent associations among variables etc (Boldeanu and Bădescu 2009).

4. Empirical results

Data processing conducts to the following results: during the analyzed period, the GDP from the region of North-West of Romania has negatively influenced the dependent variables ROA and ROE. The coefficients are significant because p-value is lower than 0.05.

Table 1: Panel data analysis

	Model 1		Model 2	
	Dependent variable ROA		Dependent variable ROE	
	Coefficient	P-value	Coefficient	P-value
Intercept	0.128699	0.0108	0.155826	0.0225
GDP_NV	-1.249524	0.0169	-1.595702	0.0247
R-squared	0.497484	-	0.528693	-
F-statistic	3.860941	0.001086	4.374860	0.000387

Source: Processed data using Eviews program

Table 1 shows the value of R-squared as 0.497 or 49.75%, for ROA, which indicate that model is 49.75% accurate or best fitted. For ROE, the value of R-squared is 0.528 or 52,87% which indicate that model is 52,87% accurate or best fitted. The remainder part of the variation in completing to 100% represent the influence of another factors, which did not take into consideration in current models.

Based on the above mentioned elements, this model of regression describes the correlation between the value of the GDP and that of a ROA and ROE as a valid one.

Thus, ROA and ROE regression models are represented by the estimation equations:

- $ROA = -1.24952351511 * GDP_NV + 0.12869899$

An increasing with 1% in growth rate of GDP from the region of North-West of Romania contributes to the decreasing of ROA (Return on assets) with 1.24%.

- $ROE = -1.59570221268 * GDP_NV + 0.155826$

An increasing with 1% in growth rate of GDP from the region of North-West of Romania contributes to the decreasing of ROE (Return on equity) with 1.59%.

Conclusions

Analysis of the influence of Regional GDP on main performance indicators of the companies from North-West of Romania contributed to defining the research question and to designing the plan for econometric modeling.

Two regression models was developed that shows that there exists a relationship between explanatory and dependent variables. The empirical results of this study find

that growth rate of GDP from the region of North-West of Romania has a negative impact on company's ROA and ROE, which is in contradiction to theory which asserts that economic growth enhances profits and downturn adversely affects the interest income. The analysis suggests the vulnerability of the companies from North-West of Romania.

But, according to financial and economic literature studied, the relation between macroeconomic factors, as GDP or inflation, and their effect on performance of companies, produced different results in different countries and different periods of time.

Limits of the research, which consist in modeling of reduced number of variables, the existence of other factors that could influence the results, opens new research directions that can be extended to cover longer time periods, other econometric techniques and financial indicators of the companies or more macroeconomic factors in studying the company's performance.

References

- Combey, A. & Togbenou, A. (2017) „*The Bank Sector Performance and Macroeconomics Environment: Empirical Evidence in Togo*”, International Journal of Economics and Finance; Vol. 9, No. 2;
- Bădulescu, D. and Simuț, R. and Morutan, R.A. (2018) „*Foreign Banks in CEE Economies: A Complex Relationship in Uncertain Times*”, The 12th International Days of Statistics and Economics, Prague;
- Boldeanu, D. M. and Bădescu, A.V. (2009) „*Performance Indicators in Financial Decisions Modeling*”, Theoretical and Applied Economics, Asociația Generală a Economiștilor din România - AGER, pag. 528-534;
- Boloș, M. I. and Sabău-Popa, C. D. (2013) „*Using Levy Distribution processes in modeling economic and financial indicators of companies*”, Editura Economică, București;
- Soedarsa, H.G and Arika, P.R (2015) „*The Influence of Inflation, GDP Growth, Size, Leverage, and Profitability Towards Stock Price on Property and Real Estate Companies Listed In Indonesia Stock Exchange Period 2005-2013*”, The 3rd International Multidisciplinary Conference on Social Sciences, Bandar Lampung University (UBL);
- Hunjra, A. I, Chani, M. I., Javed, S., Naeem, S. and Ijaz, M.S. (2014) „*Impact of Micro Economic Variables on Firms Performance*”, International Journal of Economics and Empirical Research;
- Kanwal, S. and Nadeem, M. (2013) „*The Impact of Macroeconomic Variables on the profitability of Commercial Banks in Pakistan*”, European Journal of Business and Social Sciences, Vol. 2, No. 9, pp 186-201;
- Masood, O. and Ashraf, M. (2012) „*Bank-specific and macroeconomic profitability determinants of Islamic banks*”, Qualitative Research in Financial Markets;
- Munyambonera, E. F. (2013) „*Determinants of Commercial Bank Profitability in Sub-Saharan Africa*”, International Journal of Economics and Finance;
- Sabău-Popa, C. D and Boloș, M. I. and Bradea, I.A. (2016) „*Influence of the capital structure on the company's performance. Study on the energy sector companies listed on BSE*”, 12th International Conference on European Integration – New Challenges – EINCO;
- Christine Nanjala Simiyu and Lessah Ngile (2015) „*Effect of Macroeconomic Variables on Profitability of Commercial Banks Listed in The Nairobi Securities Exchange*”, International Journal of Economics, Commerce and Management, United Kingdom;

Socol, A. and Dănulețiu, A. E. (2013) „*Analysis of the Romanian Banks' Performance through ROA, ROE and Non-Performing Loans Models*”, Annales Universitatis Apulensis Series Oeconomica;

Sufian, F. (2011) „*Profitability of the Korean Banking Sector: Panel Evidence on Bank-Specific and Macroeconomic Determinants*” Journal of Economics and Management;

Sufian, F. and Kamarudin, F. (2012) „*Bank-Specific and Macroeconomic Determinants of Profitability of Bangladesh's Commercial Banks*”, Bangladesh Development Studies; PANORAMA Publication, No. 68/2019, *Focusing on European Regional and Urban Policy, North-West Romania: going in the right direction*, European Commission;

Bucharest Stock Exchange <http://www.bvb.ro/>

National Commission for Strategy and Prognosis <http://www.cnp.ro/>

National Institute of Statistics <http://www.insse.ro/cms/>

THE THREATS TO THE AUDITOR'S INDEPENDENCE: A THEORETICAL APPROACH

Andreea-Claudia Crucean

West University of Timisoara, Doctoral School of Economics and Business Administration, Timisoara, Romania

andreea.crucean94@e-uvt.ro

Abstract: *The paper aims to identify the threats to the auditor's independence and to discuss this subject into a theoretically point of view. Auditor independence is one of the seven principles of professional ethics, necessary to perform a fair and professional audit engagement. In this paper, were reviewed the literature and analyzed some of the most relevant scientific articles that have researched this topic. Subsequently, were grouped the threats that were found and identified a series of safeguards for limit the threats to the auditor's independence. The paper is finalized with a part reserved for conclusions. The research methodology is a qualitative one, taking into account that the article aims more the theoretical documentation, respectively, a descriptive-explanatory study of the mentioned articles. The main conclusion is that an in-depth knowledge and the exercise of the procedures for mitigating the effects of threats to the auditor's independence and the compliance to the professional and ethical rules are factors that ensure the successful of an audit process.*

Keywords: auditor's independence; ethics; threats; safeguards.

JEL classification: M40; M42.

1. Introduction

The independence of the auditor is a cornerstone of the audit profession, a crucial element in the legal process of financial reporting that contributes to increasing the added value of the audited financial statements.

However, the financial crises and the corporate collapse since the beginning of 21st century have caused many changes to the audit process and indirectly, even on the auditors independence. Especially, the economic dependence resulting from the provision of non-audit services by the audit firms, the familiarity that result from the auditor's experience and the personal relationships built through the employees were considered factors that's help to the erosion of the auditor's independence.

An external auditor meets many threats that could affect his independence. If his independence is impaired, he becomes unable to issue a correct report that indicates the accuracy of the audited financial statements in accordance with the requirements of international audit standards. The auditor's career can be affected and the acceptance in the future by another client will be lower, thus reducing the users' confidence in the services provided by the auditor.

The objective of the article is to identify what are the concepts in the case of the auditor's independence and practical implication based on literature and the ethical code of the professional auditors.

2. Theoretical considerations

In order to highlight the current state of knowledge in the chosen subject area, will be presented the most important concepts, elements and factors that influence the research topic.

In the recent years, especially after the big financial scandals (in which the role of the auditors has not always been neutral); there is an increase of concerns for studying the factors that influence the quality in the audit, one of these factors being the auditor's independence.

Starting from De Angelo's (1981) definition that defines audit quality as a double probability into which the auditor can detect significant misstatements, we can identify as receiving factors influencing the quality of the audit: the auditor's ability to identify misstatements, the procedures used and the sample size, all depending significantly on the auditor's competence and endowment with appropriate technologies. This definition also refers to the competence and independence of the auditor, two important characteristics, especially when are discovered the causes of fraud or accounting errors. The lack of effort or competence prevents an auditor from detecting problems that need to be resolved, and the deficiency of independence prevents an auditor from correcting the problems identified in the client's pre-audit financial statements.

The auditor's ethical code defines independence as a state of mind that allows issuing an opinion without being affected by influences that compromise professional reasoning, allowing to act with integrity and to exercise professional objectivity and skepticism.

According to the authors Pittman et al. (2019), the characteristics of the individual auditor play an important role in the audit quality. Examining the implications of the audit quality on the risk tolerance of the partners is a common test for their risk profiles that affect their performance and are manifested in the audit results.

Al Nawaiseh et al (2015), is of the opinion that independence means that the auditor must express his opinion about the financial statements without being influenced by any threat from any source, but also the ability of the auditor to avoid the influence of any threat from the part of any source.

Grosh et al. (2016) consider that the auditor independence is also reflected in the duty to obtain sufficient and adequate audit evidence, based on which to sustain his opinion.

Tahir et al. (2014) have developed a model in which an auditor decides an optimal model on the level of independence, applicable on the bond market. The decision is influenced by the fees level charged to diminish the independence of the costs that arise when the quality of the reports is poorly monitored or fraud detection is less efficient. Capital costs are inversely proportional to the auditor's independence.

Auditor independence affects the capital costs in two ways. First, a greater independence leads to better monitoring of the firm's net assets by external auditors and to higher fraud detection rates. Better monitoring by auditors allows investors to opt out of their expensive monitoring activities aimed at reducing the risk of expropriation by managers.

Mohamed et al. (2013) have studied the issue of the auditor's lack of independence in the Egyptian context and how this topic affect the quality of the audit based on a questionnaire distributed among the audit practitioners within the Big Four audit companies operating in Egypt. The main reason for the lack of independence is the weak structure of the corporations that are much held. It was also found that the voluntary switching of auditors aims to improve the quality; suggesting that the auditor's rotation as an optimal solution.

Cordos and Fulop (2013) consider that the auditor’s rotation is not necessary to increase the audit quality, because, a specialist knows a client much better directly proportional to the duration of the period in which he is auditor. Also imposing the obligation to change the auditor would restrict the freedom of choice of the auditor by the investors, according to their needs and those of the company.

3. Methodology

The research method is a qualitative one, taking into account that the article aims more at the theoretical documentation, respectively, a descriptive-explanatory study of the most relevant scientific articles. In this sense, have analyzed and synthesized in table 1 the information identified in the mentioned articles.

To highlight this aspect, was summarized in Table 1 the information obtained after analyzing the articles included in the sample. The articles were selected in most of the articles found in databases such as: Audit Analytcs, and ResearchGate, in order to identify research at international level, but also from publications in Romania, such as the journal Audit Financiar and Oradea Business Journal of Business and Economics, the period chosen being 2006-2019 and the selection criterion was the existence of the words "audit", "independence", or the phrase "auditor independence", obtaining an initial number of 47 articles, of which were selected 13, that are the most representative.

4. Results

Following the research of the literature review, were grouped the threats to the independence of the auditor into five categories, analyzing for each category what were the determining factors and what safeguards can be applied to avoid this risk.

Table no. 1: Threats and safeguards to the auditor independence

No.	Category	Literature	Factors	Safeguards
1	Self-interest threats	Kamau et al. (2014), Huiying et al. (2016)	Dependence to fees; Financial interests; Loans or guarantees from the client.	Continuous professional training; Professional certification requirements and experience to gain access to the profession; Monitoring the activity and applying disciplinary measures; Implementation of audit standards.
2	Self-review threats	Sori et al. (2017), A Gul (2007), Jogiyanto et al. (2016), Ahmed (2016)	Contribution to the financial statements; A close business relationship with the client. Audit tasks performed previously	Review of the quality control system; Independence policies regarding the identification of threats to the independence; Identify and apply safeguards to eliminate or reduce threats to an acceptable level.

3	Advocacy threats	Austin and Herath(2014), Azibi et al. (2017), Legoria (2017).	Legal rules.	Employees competent to making managerial decisions; Implement the necessary policies and procedures for a correct reporting of the financial statements.
4	Familiarity threats	Kouakou et al. (2013), Alleyne and Devonish (2006)	Habit; Nepotism; Favoritism.	Emphasizing from the auditor management the importance of independence; Policies and procedures for implementing and monitoring the quality of audit commitments; Applying a disciplinary mechanism to promote compliance with audit procedures and policies.
5	Intimidation threats	Jiang and al. (2015), Suseno (2013)	Fees; Pressures.	Internal procedures that ensure the objective setting of fees for works that do not concern audit commitments; Corporate governance structure such as an insurance committee that provides an adequate overview and communications regarding the services offered by the company.

Source: own projection

For each threat to the auditor's independence was identified, which are the determining factors for each category and the safeguards that can prevent the influence the auditor independence threats, based on articles in which were studied the effects of these influencing factors.

5. Conclusions

Regardless of the factors that act on the independence of the auditor, his correct reasoning and ethical actions are those that can lead to a quality audit. For this, however, an auditor must have a high level of professional knowledge and skills and have assimilated the ethical behavior required by the professional rules.

Consequently, without the threat of the auditor independence, we should not see any deterioration in the quality of the audit in the next years of the mandate. However, the binding effect can erode the quality of the audit over time, as the personal relationship between the auditor and the client certainly and slowly affects the auditor's judgment over time.

The developed confidence in the client activity over time introduces confidence, hinders the auditor's ability to design creative and rigorous audit programs and to exercise the necessary professional skepticism, making the auditor less vigilant for subtle anomalies and more susceptible to less convincing evidence.

Regardless of the factors that act on the independence of the auditor, his correct reasoning and ethical actions are the ones that can lead to a quality audit. For this,

however, an auditor must have a high level of professional knowledge and skills and have assimilated the ethical behavior required by professional and societal norms. The limits of the research consisted in the fact that the number of the analyzed articles was reduced, the data being collected manually. Future research directions can be materialized into expanding the number of articles and making quantitative research on basis of collected data or even on the based on a sample.

References

- A Gul, F. (2007), Auditor independence: evidence on the joint effects of auditor tenure and non-audit fees, *Auditing: A Journal of Practice and Theory*, available at <http://ssrn.com/abstract=984656>, [accessed at 05.11.2019]
- Ahmed, M. (2015), The impact of ex-auditors' employment with audit clients on perceptions of auditor independence, *Procedia - Social and Behavioral Sciences*, no.172 , 479 – 486
- Al Nawaiseh, M.A., Alnawaiseh, M. (2015), The Effects of the Threats on the Auditor's Independence, *International Business Research*, vol. 8, no. 8, pp. 141- 149
- Alleyne, P. A., Devonish, D. (2006), Perceptions of auditor independence in Barbados, *Managerial Auditing Journal*, Vol. 21 No. 6, pp. 621-635
- Austin, E., Herath, S.K. (2014), Auditor independence: a review of literature, *Int. J. Economics and Accounting*, Vol. 5, No. 1, pp. 62-74
- Azibi, J., Tondeur, H., Azibi, H., (2017), The Impact of the H3C on Auditor Independence in French Context, *Journal of Management and Sustainability*, vol. 7, no. 2, pp. 105-115
- Cordos, G.S., Fulop, M.T. (2013), Auditor – Client Tenure Analysis and Its Effects on Auditor Independence, *Audit Financiar Journal*, no. 9, pp. 3-11
- Grosh, A., Xing, C., Wang, I. (2016), *Audit Quality of Complex Accounting Estimates: Evidence from Audit Test of Goodwill and Special Charges*, available at https://www.uts.edu.au/sites/default/files/Aloke%20Ghosh_2016%20Summer%20Conference.pdf, [accessed at 05.11.2019]
- Huiying, W., Ying, S.X., (2016), Realizing Auditor Independence in China: Insights from the Local Context, *Contemporary Management Research*, vol. 12, no. 2, pp. 245-272
- IFAC The International Code of Ethics for Professional Auditors, available at <https://www.ifac.org/knowledge-gateway/ethics/discussion/international-code-ethics-professional-accountants-key-areas>, [accessed at 05.11.2019]
- Jiang, H., , Habib, A., Zhou, D., (2015), Accounting restatements and audit quality in China, *Advances in Accounting, incorporating Advances in International Accounting*, available at <http://dx.doi.org/10.1016/j.adiac.2015.03.014> [accessed at 06.11.2019]
- Kamau, C.G., Nduati, S.K., Mutiso, A.N. (2014), Exploring Internal Auditor Independence Motivators: Kenyan Perspective. *International Journal of Economics, Finance and Management Sciences*. Vol. 2, No. 2, pp. 132-137
- Kouakou, D., Boiral, O., & Gendron, Y. (2013), ISO auditing and the construction of trust in auditor independence. *Accounting, Auditing & Accountability Journal*, no. 26(8), pp. 1279-1305.
- Legoria, J., Rosa, Gina, Soileau, J.S. (2017), Audit quality across non – audit service fee benchmarks: Evidence from material weakness opinions, *Research in Accounting Regulation*, vol. 29, no. 2, pp. 97-108
- Mohamed, D.M., Habib, M.H. (2013), Auditor independence, audit quality and the mandatory auditor rotation in Egypt, *Education, Business and Society: Contemporary Middle Eastern Issues*, vol. 6, no. 2, pp. 221 – 246

- Pittman, J., Stein, Sarah, Valentine, Delia (2019), Audit Partners' Risk Tolerance and the Impact on Audit Quality, available at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3311682, [accessed at 05.11.2019]
- Sori, Z.M., Mohamed, S., Karbhari, Y. (2017), *Auditor reputation and auditor independence: evidence from an emerging market*, available at <http://orca.cf.ac.uk/39372/>, [accessed at 03.11.2019]
- Suseno, N.S., (2013), An empirical analysis of auditor independence and audit fees on audit quality, *International Journal of Management and Business Studies*, vol. 3, no. 3, pp. 82-87.
- Tahir, F., Idris, K., Ariffin, Z. (2014), Dimensions of Auditor Independence: A Pilot Study, *International Journal of Business and Management*, col. 9, no. 6, pp. 72-76
- Wu, H., Ying, S., (2016) Realizing Auditor Independence in China: Insights from the Local Context, *Contemporary Management Research*, Vol. 12, No. 2, pp. 245-272

THE CONCEPT OF SUSTAINABILITY OF PUBLIC INVESTMENTS. BASIC ELEMENTS AND COMPARISON IN CENTRAL AND EASTERN EUROPE

Ovidiu – Vasile Guler

Doctoral School of Economic Sciences, University of Oradea, Faculty of Economic Sciences, The Finance - Accounting Department, Oradea, Romania

guler.ovidiu@gmail.com

Abstract: *The success of a community or a state is conditioned by the ability to make public investments and the existence of financial sources. Financial sustainability is essential for starting a public investment. The decision to make a public investment must be rational and based on clear criteria and one of the essential criteria for public investments is the financial sustainability of the investment. A grant is the most efficient source for public investment projects because, it involves the least financial effort compared to the sources from the local, national budgets and especially in relation to the sources provided by loans. The Central and Eastern European countries have benefited from significant European funds but have failed to make sufficient investments and public debt has increased. This fact contributed to a decrease in the sustainability of public finances in these EU member states. In Romania, public investments reached from 6.16% in 2007 (the highest share of the 11 states in 2007) to 2.64% (the lowest weight of the 7 states for which data are available on Eurostat at the moment).*

Keywords: sustainability, financial analysis, public investments

JEL classification: H72, H83, Q56, R53

1. Introduction

In Romania it is a major limit on the allocation of public funds for public investments and especially for large infrastructure projects, such as highways or railways. Creating a model for analyzing and prioritizing public investments in terms of financial sustainability will lead to an objective and efficient allocation of public funds. It is important to develop a model for prioritizing public investments in terms of financial sustainability so as to increase the efficiency of the financial allocations from the state budget for infrastructure projects.

2. Literature review

The main developments of the research at European and international level regarding the analysis of public investments, are presented in this section. De Mare Gianluigi, Granata Maria Fiorella and Nesticò Antonio (2015) propose the adoption of multicriteria techniques, for carrying out a complex analysis of the investment projects that complete the analysis of the financial and economic sustainability specific to the cost - benefit analysis within the feasibility studies. In order to avoid economic crises, it is necessary to increase the public and private investments to be allocated to the infrastructure and to the productive sector as well as to increase the quality of life of the inhabitants (sports facilities, parks).

Heather Jones, Filipe Mouraa and Domingosb Tiago (2013) believe that major infrastructure projects require a comprehensive decision-making tool. This paper mentions that the treatment of residual value is currently inadequate and requires further research. Thus, the authors believe that the current method of calculating the residual value does not properly reflect the true value.

Bifulcoa and Leone (2013) show the correlation between accessibility and tourist mobility. Thus, tourist mobility is influenced by both the tourist objectives and the transport infrastructure towards those tourist objectives. The authors proposed the creation of a model to meet the needs of both public authorities and tourists both for promoting tourism objectives and for planning the creation of public infrastructures. In the specialty literature, there is a controversy between the specialists regarding the cost benefit analysis (CBA) and the multicriteria approach of the decisions as a suitable tool for the decision makers. Annema Jan Anne, Mouter Niek and Razaeei Jafar (2015) present the importance of cost-benefit analysis from the perspective of decision makers. Thus, decision makers use a cost-benefit analysis but it is not a decisive tool for decision making.

3. The sustainability of public investments. Basic elements

Financial sustainability is a concept that assumes that a project can be financially self-sustaining and the cumulative net cash flows are positive. Financial sustainability is essential for starting a public investment. The main factors influencing financial sustainability are represented by the sources of financing, the investment cost, the revenues and operating costs as well, as the residual value. The sustainability of the project is given by the non-existence of the risk of running out of money during the analyzed period of financial projections. At the same time, sustainability must cover the entire period of investment and not just certain years or months.

The internal rate of return on the financial return of the investment is the discount rate of the capital, which causes the present value of the net cash inflows, estimated within an investment project, to be equal to the value of the cash outflows for the realization of the investment. The net financial present value (NPV / F) is realized by summing the updated cash flows. It is important for NPV to be positive. The term of recovery of the investment is represented by the duration which an investment is recovered from the net income that will be obtained from the implementation of the project. This is an essential element for the financial analysis of projects.

Economic analysis involves estimating the contribution of a public investment to the economic well-being of a city, region or country and is very important because it also includes the economic and social benefits of an investment. Socio-economic analysis involves making fiscal corrections, corrections for externalities and transforming them into accounting prices.

In order to ensure the sustainability of public budgets, there are limits imposed for local public debt, limits imposed by the Ministry of Public Finance and limits imposed for the budget of a member country of the European Union.

The decision to make a public investment must be rational and based on clear criteria and one of the essential criteria for public investments is the financial sustainability of the investment. At this moment in Romania there are some strategic documents based on which public infrastructure projects are financed. An example of a document specific to public investments is represented by the Master General Plan of Transport of Romania, which was prepared by the Ministry of Transport and aims to prioritize projects in the field of transport in our country.

The public investments and the public budget are interdependent because investments cannot be made without the financial allocations from public budgets. Therefore, there is a direct relationship between the decision, the public budget and the public investments. Public investments are made from different public budgetary sources: local budgets, national budgets or from grants (structural funds, Norwegian grants or other grants).

In order to make public investments, it is essential to provide financing sources. The

success of a community or a state is conditioned by the ability to make public investments and the existence of financing sources. Given that the needs of the inhabitants of a city or a country are many and their sources of financing are limited, it is not necessary for decision makers to make rational decisions regarding the allocation of public money to make public investments. The capacity of public authorities to finance public investments also refers to their availability to attract various sources of financing (grants, loans).

Grants are the most efficient sources for public investment projects because they involve the least financial effort compared to the sources from the local, national budgets and especially in relation to the sources provided by loans. Grants have the advantage of leading to a disciplining of the public authorities that make investments from these sources because the grants are carefully verified.

In Romania, the public authorities have their own contribution of 2% of the eligible value of the projects and the difference of 98% is ensured from structural and investment funds. Thus, if in the past a public authority had 2 million euro for public investments, it could make public investments worth 2 million euro. Currently, if a public authority applies for a grant of 100 million euro with a own contribution of 2% will be able to make public investments of 100 million euro with a own contribution of 2 million euro. Grants are a great opportunity for the development of a member state of the European Union.

4. Comparison – Trend of public investments and public debt in central and eastern Europe

In this section I will analyze the evolution of public debt and public investment in the 11 former communist states of Central and Eastern Europe that are members of the European Union. We can see an increase in public debt in all 11 states between 2007 and 2018, a negative aspect regarding the sustainability of public finances. Croatia, Hungary and Slovenia have the largest public debt to GDP ratio of the 11 countries analyzed, over 70%. Estonia has the lowest share of public debt, below 10%, an advantage over the sustainability of public finances in this country.

Table 1: Public debt - percentage of Gross Domestic Product in central and eastern Europe (2007 - 2018)

Year	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Bulgaria	16.3	13	13.7	15.4	15.2	16.7	17.1	27.1	26	29.3	25.3	22.3
Czechia	27.5	28.3	33.6	37.4	39.8	44.5	44.9	42.2	40	36.8	34.7	32.6
Estonia	3.8	4.5	7.2	6.6	6.1	9.8	10.2	10.6	10	10.2	9.3	8.4
Croatia	37.4	39.3	48.7	57.8	64.4	70.1	81.2	84.7	84.4	81	78	74.8
Latvia	8	18.1	36.2	47.3	43.1	41.6	39.4	40.9	36.7	40.2	38.6	36.4
Lithuania	15.9	14.6	28	36.3	37.2	39.8	38.7	40.6	42.7	39.9	39.3	34.1
Hungary	65.6	71.8	78.2	80.6	80.8	78.5	77.3	76.8	76.1	75.5	72.9	70.2
Poland	44.2	46.3	49.4	53.1	54.1	53.7	55.7	50.4	51.3	54.2	50.6	48.9
Romania	11.9	12.3	21.8	29.6	34	37	37.6	39.2	37.8	37.3	35.1	35
Slovenia	22.8	21.8	34.5	38.3	46.5	53.6	70	80.3	82.6	78.7	74.1	70.4
Slovakia	30.3	28.6	36.4	41	43.5	51.8	54.7	53.5	51.9	52	51.3	49.4

Source: Eurostat

Even if all the states had an increase in public debt, only two countries (Hungary and Slovakia) had an increase in the share of public investments in GDP. Thus, the increase of the public debt in these two states is more sustainable because it also meant the increase of investments. In the other states, even if the GDP has increased,

the share of investments has decreased, including in Romania, where it reached from 6.16% in 2007 (the highest share of the 11 states in 2007) to 2.64% (the lowest weight of the 7 states for which data are available on Eurostat at the moment).

Table 2: Public investment share of Gross Domestic Product in central and eastern Europe (2007 - 2018)

Year	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Bulgaria	5.23	5.57	4.95	4.59	3.41	3.41	4.05	5.21	6.57	2.62	:	:
Czechia	4.75	5.27	6.03	5.11	4.49	4.17	3.72	4.13	5.14	3.26	3.39	4.1
Estonia	6.01	6.2	6.24	4.84	4.92	6.32	5.57	5.04	5.25	4.53	5.42	:
Croatia	6.12	5.85	5.75	3.61	3.63	3.54	:	:	:	:	:	:
Latvia	5.89	5.2	4.75	4.58	4.92	4.86	4.42	4.47	4.65	3.49	4.41	5.42
Lithuania	5.41	5.38	4.42	4.98	4.75	3.98	3.75	3.54	3.7	3.04	3.23	3.25
Hungary	4.23	3.19	3.42	3.65	3.33	3.71	4.36	5.35	6.54	3.18	4.54	5.84
Poland	4.47	4.79	5.02	5.59	5.86	4.75	4.14	4.66	4.53	3.29	3.78	:
Romania	6.16	6.48	5.76	5.72	5.48	4.81	4.53	4.26	5.15	3.62	2.56	2.64
Slovenia	4.57	4.74	5.07	4.96	4.06	4.04	4.32	5.07	4.76	3.13	3.04	3.55
Slovakia	3.19	3.41	3.92	3.56	3.72	3.23	3.34	4.12	6.39	3.4	3.37	3.74

Source: Eurostat

5. Conclusion

The Central and Eastern European countries have benefited from significant European funds but have failed to make sufficient investments and public debt has increased. This fact contributed to a decrease in the sustainability of public finances in these EU member states. Between 2007 and 2020 Romania absorbed the amount of 50 billion euros, but the investments decreased very much having the lowest level of the 11 states analyzed.

References

- Alhoa A., de Abreu e Silva J. and de Sousa J.P. (2013), *A state-of-the-art modeling framework to improve congestion by changing the configuration / enforcement of urban logistics loading / unloading bays*, EWGT 2015
- Annema J.A., Mouter N. and Razaei J. (2015), *Cost-benefit analysis (CBA), or multi-criteria decision-making (MCDM) or both: politicians' perspective in transport policy appraisal*, EWGT 2015, Delft, Netherlands
- Bifulcoa G.N. and Leone S. (2013), *Exploiting the accessibility concept for touristic mobility*, EWGT 2013
- Boloş M.I. (2007), *Buget și trezorerie publică*, Editura Universității Oradea
- De Mare G., Granata M.F. and Nesticò A. (2015), *Weak and Strong Compensation for the Prioritization of Public Investments: Multidimensional Analysis for Pools*, Italy
- Panayiotoua A. and Meddaa F.R. (2013), *Attracting Private Sector Participation in Transport Investment*, EWGT 2013
- Heather J., Filipe M. and Domingos T. (2013), *Transport infrastructure project evaluation using cost-benefit analysis*, EWGT 2013
- Eurostat, *Public debt - percentage of Gross Domestic product*, 27.10.2019, <https://ec.europa.eu/eurostat/tgm/table.do?tab=table&init=1&language=en&pcode=teina225&plugin=1>
- Eurostat, *Public investment share of GDP*, 27.10.2019, https://ec.europa.eu/eurostat/databrowser/view/sdg_08_11/default/table?lang=en

The work was supported by University of Oradea, Doctoral School of Economic Sciences

MODELLING FINANCIAL SUSTAINABILITY WITH PERFORMANCE INDICATORS: NPV AND IRR

Ovidiu – Vasile Guler

Doctoral School of Economic Sciences, University of Oradea, Faculty of Economic Sciences, The Finance - Accounting Department, Oradea, Romania
guler.ovidiu@gmail.com

Abstract: *The main gap in the literature is represented by the choice of the preferred indicator for the hierarchy of projects, NPV and IRR. The research methodology used in this paper involves data analysis, observation, modeling and interpretation of sensitivity analysis results. In this paper I will perform a sensitivity analysis and present the way in which it influences the modification (increase and decrease) of four variables that influence IRR and NPV (investment cost, operating cost, operating income and discount rate). The analyzed project is a local public infrastructure project. NPV and IRR are performance indicators used to make investment decisions in both the public and private sectors. Internal return rate is the rate of return at which the net present value (NPV) of a project is zero. IRR is used in the analysis of updated cash flows. The main factors influencing financial sustainability are represented by the sources of financing, the investment cost, the revenues and operating costs as well as the residual value. At the same time, sustainability must cover the entire period of operation of the investment and not just certain years or months.*

Keywords: sustainability, NPV, IRR, public investments

JEL classification: E22, G11, H72, H83, Q56, R53

1. Introduction

The objective of this paper is to perform a sensitivity analysis to observe the evolution of the 4 variables that influence NPV and IRR and the way in which these 4 variables have an impact on increasing or decreasing NPV. The main gap in the literature is represented by the choice of the preferred indicator for the hierarchy of projects, NPV and IRR. Financial sustainability is a concept that assumes that a project can be financially self-sustaining and the cumulative net cash flows are positive. Financial sustainability is essential for starting a public investment. It is important to accurately estimate the performance indicators. The role of sensitivity analysis is to determine the degree of risk of each analyzed project. In the case of this project, the NPV variation is analyzed following the change (increase and decrease) with 1% of these variables.

2. Literature review

In this section I will present the main conclusions of the researchers regarding the internal rate of return and the net present value. In my opinion for the hierarchy of projects both performance indicators, IRR and NPV should be used. Carlo Alberto Magni (2012) presents IRR, which is used to make investment decisions both in the field of public investments and private projects. Even if it is used by managers, the internal rate of return has many limitations mentioned by Magni in his paper: limits for accepting or rejecting an investment project, ranking of projects measured on the basis of IRR is different from the ranking of projects measured on the basis of NPV, IRR does not present the danger of losing the entire capital and cannot measure the rate of return of a certain strategy. At the same time, Magni proposes the creation of average internal rate of return (AIRR) that helps to avoid the problems mentioned above and to

overcome the existing limits regarding IRR.

Baucells Manel and Bodily Samuel (2018) note that the net present value is used in the investment decision - making process and the evaluation of projects. Thus, the expected utility of the capital to which NPV is added is established. Phalippou Ludovic (2008) presents the importance and the limits of using internal rate of return. Phalippou Ludovic describes a solution for the limits of IRR, the Modified internal rate of return (MIRR) which could help the investors to make the right decision of investment. In my opinion it is useful to try to improve the IRR (AIRR and MIRR) to overcome the existing limits of this indicator.

Arjunan Kannapiran (2017) considers that IRR is a more efficient indicator for making investment decisions in relation to NPV. Kannapiran considers that IRR is a more relevant indicator than NPV for classifying investments. At the same time, it is mentioned that in states such as Germany or the Netherlands, IRR is preferred while in countries like Great Britain or France the preferred indicator is NPV. At the same time, these two indicators are mathematically interdependent because IRR is the discount rate for which NPV has zero value. In my opinion, both indicators should be used to determine which project is chosen for the investment.

3. Performance indicators: IRR and NPV

Internal return rate is the rate of return at which the net present value (NPV) of a project is zero. IRR is used in the analysis of updated cash flows. One limit of the IRR is that this indicator does not take into account the size of the investment and the projects with low rates can be advantageous compared to the big projects but with lower rates of the IRR.

$$IRR = \sum_{t=0}^n \left(\frac{CF_n}{(1+r)^t} \right) - C_0 = r_a + \frac{NPV_a}{NPV_a - NPV_b} (r_b - r_a)$$

Where: IRR = Internal return rate, r = discount rate, NPV = net present value, n = time period, CF1 – CFn = cash flows, CF0 = Initial Investment, r_a = lower discount rate chosen, r_b = higher discount rate chosen, NPV_a = NPV at r_a, NPV_b = NPV at r_b

The net present value (NPV) is realized by summing the updated cash flows. NPV is an indicator used for investment decision in both the public and private sectors.

$$NPV = \sum_{t=0}^n \left(\frac{CF_n}{(1+r)^t} \right)$$

The correlation between IRR and NPV is:

$$NPV = \sum_{t=0}^n \left(\frac{CF_n}{(1+IRR)^t} \right) = 0$$

Where: IRR = Internal return rate, r = discount rate, t = time period, NPV = net present value, CF1 – CFn = cash flows, CF0 = Initial Investment,

The initial cost of public investments is established within the feasibility study of the project, but it may undergo changes when the technical project is executed or during the works. In order to analyze the sustainability of public investment projects, it is essential that the initial cost estimate is correct because the initial cost is analyzed within the cost-benefit analysis of the investment. The decision to start or not an investment depends on this analysis,.

The operating costs of a public investment are the expenses that the investment operator will have in order to operate the investment (maintenance, repairs, personnel expenses and other necessary expenses) and the total income is the income generated by an investment. Proper estimation of these elements is essential to

determine if a project is being implemented and to prioritize certain public investment projects.

Financial sustainability is a concept that assumes that a project can be financially self-sustaining and the cumulative net cash flows are positive. Financial sustainability is essential for starting a public investment. The profitability of public investment in infrastructure plays an essential role in the start of the project. It is important to accurately estimate the return on investment.

Socio-economic analysis involves fiscal corrections, corrections for externalities and transforming them into accounting prices. The use of accounting prices is necessary to calculate the opportunity cost of inputs and outputs. Turning market prices into accounting prices is the first step in economic analysis. Monetizing non-economic impacts is the second step of economic analysis. Thus, the impacts of the project that are relevant at the company level but for which no market values are available will be monetized. Examples of non-economic impacts in the field of infrastructure are: for transportation (travel and waiting time savings), health (life expectancy) or environment (noise, landscape). The direct effects are represented by changes in prices or quantities on secondary markets. Thus, the indirect effects can be: taxes, subsidies, monopoly rents or externalities. These effects can be positive or negative.

4. The sensitivity analysis and the performance indicators

The objective of the research is to perform a sensitivity analysis to observe the evolution of the 4 variables that influence NPV and IRR and the way in which these 4 variables have an impact on increasing or decreasing NPV. The main findings of the paper are that 5 scenarios involve the decrease of NPV while 3 scenarios involve increasing NPV. The main factors influencing financial sustainability are represented by the sources of financing, the investment cost, the revenues and operating costs as well as the residual value.

Table 1: The sensitivity analysis of proposed project

Influencing factors	Initial value	Variation	Modified value	Initial NPV	Modified NPV	Absolute variation of NPV
Increase of the investment cost	5,000,000	1%	5,050,000	1,202,284	1,156,933	-45,351
Increase of the operating cost	1,800,000	1%	1,818,000	1,202,284	1,191,940	-10,344
Increase of the income	12,300,000	1%	12,423,000	1,202,284	1,270,003	67,719
Increase of the discount rate	5.00%	1%	5.05%	1,202,284	1,174,940	-27,344
Decrease of the investment cost	5,000,000	-1%	4,950,000	1,202,284	1,247,636	45,351
Decrease of the operating cost	1,800,000	-1%	1,782,000	1,202,284	1,212,629	10,344
Decrease of the income	12,300,000	-1%	12,177,000	1,202,284	1,134,566	-67,719
Decrease of the discount rate	5.00%	-1%	4.95%	1,202,284	1,161,763	-40,521

Source: made by the author

In this section I will perform a sensitivity analysis and present the way in which it influences the modification (increase and decrease) of four variables that influence IRR and NPV (investment cost, operating cost, operating income and discount rate). The analyzed project is a local public infrastructure project.

The investment cost is 5 million euro. The investment is made in year 1 and the period of analysis is 10 years. The annual value of operating costs is 200,000 euro (for years 2 to 10) and the annual value of operating income is 1,200,000 euro (for years 2 to 10). The residual value taken into account for this analysis is 30% of the investment cost, 1.5 million euro. The selected discount rate is 5%. Following the application of the calculations, IRR is 16.01% and NPV is 1,202,284.35 euro, while the benefit / cost (B / C) ratio is 0.24.

The role of sensitivity analysis is to determine the degree of risk of each analyzed project. In the case of this project, the NPV variation is analyzed following the change (increase and decrease) with 1% of these variables. Thus, we can analyze the change with 5% or 10% of the variables but in the case of this analysis we will analyze the change with 1%.

The sustainability of the project is given by the non-existence of the risk of running out of money during the analyzed period of financial projections.

5. Conclusion

The main limits of this research is represented by the fact that it analyzes only the variation (increase and decrease) with 1% of 4 variables and for the future I propose to increase the number of variables as well as evolution scenarios (5%, 10%, 15% and 20 %).

Thus, these 8 scenarios are created within this sensitivity analysis and it is noted that 5 scenarios (increase of the investment cost, increase of the operating cost, increase of the discount rate, decrease of the revenues and decrease of the discount rate) involve the decrease of NPV while 3 scenarios involve increasing NPV (increase of the revenues, decrease of the investment costs and decrease of the operating costs). It is a normal evolution regarding the fact that an increase of the income and a decrease of the costs leads to the increase of the NPV but it is noticed that both the increase and the decrease of the discount rate leads to the decrease of the NPV.

References

- Arjunan K. (2017), *IRR Performs Better than NPV: A Critical Analysis of Cases of Multiple IRR and Mutually Exclusive and Independent Investments*
- Baucells M., Bodily S. (2018), *Net Present Value Analysis of Projects under Expected Utility*
- Boloş M.I. (2007), *Buget și trezorerie publică*, Editura Universității Oradea
- Boloş M.I. (2002), *Eficiența investițiilor*, Note de curs, Editura Universității din Oradea
- Magni C.A. (2012), *Average Internal Rate of Return and Investment decisions: a new perspective*, *The Engineering Economist*, volume 55, number 2, pages 150 – 180
- Phalippou L. (2008), *The hazards of using IRR to measure performance: The case of private equity*
- Udayan Kumar Basu (2011), *Existence and Uniqueness of IRR for Realistic Investment Scenarios and Descartes Rule of Signs*
- Guide to Cost-Benefit Analysis of Investment Projects (2014), *Economic appraisal tool for Cohesion Policy 2014-2020*,
https://ec.europa.eu/regional_policy/sources/docgener/studies/pdf/cba_guide.pdf

The work was supported by University of Oradea, Doctoral School of Economic Sciences

DO YOU BELIEVE IN PERFORMANCE BETWEEN ERP SYSTEM AND HUMAN CAPITAL IN TERMS OF WORKING TIME?

Roxana Igna, Diana Niță, Marius Pantazi

The Bucharest University of Economic Studies, Accounting and Audit, Accounting, Bucharest, Romania

roxana.igna95@yahoo.ro

Nita.diana.n@gmail.com

Marius.pantazi1@gmail.com

Abstract: *The purpose of the research is to analyse the characteristics and implications of the integrated accounting systems on working time. The results will be examined and interpreted before and after implementation on ten companies that operates on the Romanian market. This study focuses on the broadly debated concept of optimizing the IT-accounting process through an integrated Enterprise Resource Planning (ERP) system. This system will add value to the accounting profession being more reliably and easily. The essential role to be played would be to gain time at the organization level for performing certain tasks (document submissions, electronic archive, bank statement). Then it measures if the accounting system generates performance for the professional accountant. Thus, the implementation of an ERP process represents the attention paid by the management of companies on the time and performance, during the relationship between innovation and human capital can bring. In conclusion, it will be mentioned the level of performance brought to the companies.*

Keywords: Accounting systems, *Enterprise Resource Planning (ERP)*; Organizational Performance; Human capital

JEL classification: A14, M41, M49

1. Introduction

The article reports on a literature review focusing on three relevant parts that are closely related: integrated ERP systems, company-level performance and performance on the human capital. We want to highlight the impact of implementation the ERP system has on the performance of the company activity and of the directly productive capital. At the same time, we aim to highlight the impact that human capital has after the implementation of the computer system. Basically, we follow the interdependence between the information systems and the human capital reflecting on the company performance. Also, we want to determine the added value that human capital brings to technological innovation, in the world where most of the professions start to automate. We want to determine the effects measured during the working time of human capital following the implementation of an ERP system in a company that dears with the retail trade. The implementation of such a system influences both the direct productive capital and the performance of the analysed company.

2. Literature review

Enterprise Resource Planning (ERP) is a system that can bring significant changes to an organization. The system includes a combination of business procedures.

They are grouped into departments in a single database. This database can be accessed and updated in real time.

The main feature of an ERP system is that it helps to integrate all the business functions of the organization into a single database offering an accurate vision of the business.

ERP systems are designed to process a company's transactions and facilitate integrated planning. It also offers quick access to production information or customer / supplier situations. The most important benefits of ERP implementation are the new data management and collection processes that are easier and faster. (Dahlia Fernandez et al., 2017)

The main difference between an ERP system and other accounting systems is that ERP covers the entire organization process and business functions, not just the operations related to production. ERP systems can be identified in accounting and inventory systems. Moreover, companies would have a substantial cost savings by reducing the large number of documents, labour costs and considerable hours of work. On the other hand, obtaining full benefits from ERP investments is not something that can be realized quickly. (Ahmed Elragal, 2012)

Although the implementation aims at certain benefits, post-phase analysis is also recommended. The most serious organizational problems arise in the post-implementation phase of an ERP system. The specialized literature illustrates the need for more research on the problems and costs that arise after ERP implementation. (Karoline B. Osnesa et al., 2018).

As long as, the human capital manages the accounting information received in a company, the time for its continuous professional formation is a must have. The consequences of investments in human capital are made up of various elements such as the level of education, training and professional experience, the health status or the knowledge of the economic system, these being decisive for the evolution of a company whose human resources are formed for long term within a company (Becker B.E. et al, 2005).

The increasing attention to the time spent on work has determined the management to focus on the automation many activities, leaving the human resource more time for verification, interpretation and analysis. Given the fact that in a company there are two types of resources, human resources and material resources, experience has shown that human resources are the most important because they are the only ones that can control the other types of resources. The result of the specialized literature (Asiaei K. et al., 2017) have shown that a company that has a good management of human resources can cause a doubling of the added value of the company.

3. Data analysis

The research was based on a case study that included a sample of ten commercial companies operating on the Romanian market. The most important factor on which the research was carried out was the working time. The data were taken from a company that offers accounting services. The companies analysed are the clients of the accounting firm. The major difference that we have seen regarding to the improvement of time is the records on depreciation, settlement of expenses and revenues in advance, financial leasing, financial revaluation because their records were kept in excel before the ERP implementation. The working time was taken from the daily report of the employees who deal with their accounting. Due to data privacy policies we will not provide the company name and business data. The study will only reflect the average time spent on certain tasks before and after implementation of an ERP system. The research aimed at comparing a normal internal accounting system with an integrated ERP system. Based on the average achievement, there was an improvement of the working time at the company level.

Table 1: Relevant time in the accounting activity

No. crit.	Economic indicator	Before application	After application	Performance/ Failure
1	Working time on basic activities (management of accounting documents)	8 hours/day	6 hours/day	The time for the basic tasks of accounting has decreased by 2 hours (accounting system versus integrated ERP system)
2	Production (stocks, imports, exports) / hours	40 hours / week	30 hours / week	Efficiency of accounting reports on production and stocks
3	Accounting notes (amortization, advance expenses/ revenues, financial revaluation)/ hours	16 hours / month	4 hours / month	Automation of accounting records
4	Permanent evidence of actual and scriptural stock	8 hours / year	6 hours / year	Reducing the time of stock inventory (flashing inventory)
5	Verification of the correctness about the reports issued by ERP system	8 hours /month	10 hours/month	The time allowed to verify the reports has increased due to the new features and complexities of the ERP system compared to the classic accounting system

4. Conclusion

In this article, an ERP research model was presented. Performance was an important factor in terms of working time on which we reported in this paper. An advanced computer system improves working time and increases the added value on human capital. In the specialized literature there is the correlation between human and structural capital, and by this article we wanted to demonstrate the influence of the information system in human capital through working time. Both analysed elements have an impact on the company performance. We can say that the integrated ERP system improves working time, but at the same time it involves higher costs than a normal accounting system. The implementation of an ERP system is the attention of the company management on the efficiency of the production, bringing added value by human capital, and all these forms are found in the performance of the company. Time is one of the most important elements in achieving the set objectives, and finding new solutions, opening up to new implementations makes the company perform. The direct connection for the information systems- working capital and performance, is certainly time. In the near future research, we also want to analyse the costs of implementation and an ERP system.

References

- Asiaei, K., Jusoh R. (2017), Using a robust performance measurement system to illuminate intellectual capital. *International Journal of Accounting Information Systems* 26 pp 1-19
- Becker, B.E., Chiswick, E., (2005), *Human Capital, a theoretical and empirical analysis*
- Elragal, A., Haddara, M., (2012), *The Future of ERP Systems: look backward before moving forward*, *Procedia Technology*, Volume 5, pp. 21-30

Fernandez, D., Zainol, Z., Ahmad, H., (2017), The impacts of ERP systems on public sector organizations, *Procedia Computer Science*, Volume 111, pp. 31-36

Osnes, K. B., Olsena, J., Vassilakopoulou, P., Hustada, E., (2018), ERP Systems in Multinational Enterprises: A literature Review of Post-implementation Challenges, *Procedia Computer Science*, Volume 138, pp. 541-548

THE EVOLUTION OF GOVERNMENT REVENUES FROM ENVIRONMENTAL TAXES IN ROMANIA

Alexandra-Maria Lăcătuș (Bele)

Doctoral School of Economic Studies, University of Oradea, Romania

lacatusalex@yahoo.com

Abstract: *In last decades, climate and environmental changes had led to financial implications that implied a new approach from the economic and fiscal perspective. Given this fact, companies and public institutions have begun to move towards a sustainable economy. Most of the Romanian companies have a level low awareness of environmental issues. They are motivated mainly by the need to comply regulations regarding their practice environment and are generally motivated in their choices by the profit they are making using low costs. Our country realizes among the smallest receipts from environmental taxes like percentage of GDP, both at the general level and the three particular groups: taxes on energy, taxes on transport and pollution taxes and use of resources. With other words, I consider that even if we are doing small steps towards a green economy, the finance part is still a stepping stone.*

Keywords: green finance; green economy; green taxes; environmental; sustainability; sustainable economy

JEL classification: A14

1. Introduction

Lately, both individuals and companies have become increasingly concerned about the environment. Given this fact, they have begun to investigate from different perspectives the socially and economically impact. However, at present there is no generally accepted definition, especially since various studies and development programs have been carried out. In this sense, in the first part my objective was to conceive the study based on the specialized literature where I surprised a supportive framework in which I indicate the principles underlying the green finance as well as the limits that constrain them. In addition, I emphasize how important is the green part in the finance, due to the lack of information and literature that is shown. In the second part, I made an analysis of the 3 major categories of environmental taxes and showed their share in the GDP of Romania. The indicators were calculated by reporting the revenues from millions of euros to the gross domestic product. Also, I tried to create a portrait underlining the fact that this area is quite new, and the lack of information and research, gradually led to a decrease in the revenues from these taxes.

2. Literature review

Green finance is a new stream that links the business world to the environment. However, the integration of taxes that come from environmental protection in the loss or profit of companies becomes a controversial topic. Although green finance is a mutually accepted concept, they individually imply a different set of principles and values. As Wang & Zhi, also stated, green finance is on a stage with a strong influence from several actors. Here we can include both consumers and producers, on one hand, as well as investors, public institutions and lenders. In other words, each actor perceives differently the application of green finance. All the more so as they can make

their mark either through financial benefits or through a desire to slow down the destruction of the planet (Wang & Zhi, 2016).

Although there is a lot of definitions of green finance, there is currently no generally accepted approach. Researchers at International Finance Corporation consider this a launching pad, as a wide range of characteristics from each sectors of activity must be considered and of course the level of development of each country. This system is based on a pyramid structure and focuses on low-income countries (International Finance Corporation, 2013).

On the other hand, some authors argue that the main objective of green finance is not only to achieve a sustainable economy but also to protect biodiversity (Höhne, Khosla, Fekete, Gilbert, 2012).

In the attempt to define the concept of green finance, the European Commission has prepared a report which tried to establish some accepted principles and limits. Thus, three components were taken into account: green bonds, green lending and green equity investment. A project can be assigned the notion of green only if it is in accordance with the Principles of Green Links. Their character implies the agreement of external reviewers who have made certain verifications regarding the likelihood of environmental impact. Finally, according to a predetermined scheme, they receive certain certifications recognized by the Green Bond Principles and Climate Bonds Initiative (Kahlenborn, 2017).

3. The share of the main categories of environmental taxes in Romania's GDP

The research was carried out starting from the central objective, namely the investigation of the share of the receipts from the environmental taxes in Romania's GDP. In order to achieve the proposed research objective, we selected from the Eurostat database the necessary information and then transposed them into a graphic. First of all, in order to analyze the share of revenues from environmental taxes in GDP, we will establish the time period over which our study extends, more precisely 2000-2017. Then we will point out the dynamics and the main causes that led to the increase or decrease of the receipts. The indicators were calculated by comparing the receipts from millions of euros to the gross domestic product.

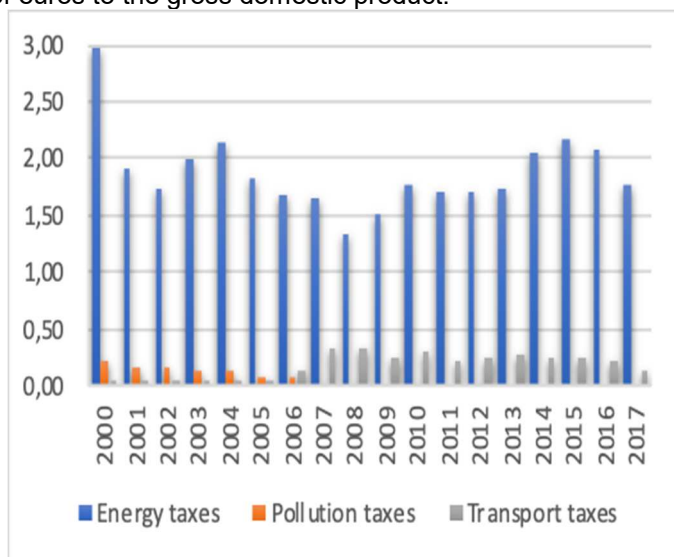


Figure 1: Environmental taxes in Romania's GDP
Source: (Eurostat, 2019)

Analyzing Figure 1 we can get an overview of the situation. From here, it turns out that between 2000-2003, energy taxes and pollution taxes show an increase, while transport taxes have decreased.

The beginning of the 21st century made a promising start in terms of energy tax receipts that reached in Romania in 2000 a percentage of 2.98%, decreasing in the following year to 1.92%, respectively 1.73% in 2002. While pollution taxes represented 0.23% of GDP in 2000, decreasing in 2001 to 0.18% of GDP so that in 2005 it would reach 0.09% of GDP.

A series of global economic shocks have triggered the slowdown in development since 2000, and the year 2003 has not been without additional disturbances on a global scale. The variables of macroeconomic prices, such as the real costs of labor and the inflation of consumer prices, adjusted slowly, have led to a weak growth and a deterioration of the conditions of the labor market (EUROPEAN ECONOMY, 2003).

The major fluctuations started at the end of 2007 and were strongly felt in 2008. Thus, revenues from energy taxes decreased from 1.65% of GDP in 2007 to 1.34% in 2008. The receipts from pollution taxes show a dramatic decline from 0.08% of GDP in 2006 to 0.01% of GDP in 2008. Moreover, receipts from transport taxes have maintained a constant trajectory of 0.34% between 2007-2008, after which they showed a slight decrease to 0.27% of GDP in 2009. Since 2009, revenues from energy taxes have gradually increased to 2.17% of GDP. Regarding pollution rates, we were provided data only until 2008, and then the value of 0.01% of GDP remained in 2010 and 2012, respectively. Last but not least, the transport charges, starting with 2008, showed slight decaying oscillations. The sharp decline occurred between 2016-2017 from 0.24% to 0.14% of GDP. According to the report on the analysis of environmental taxes Romania records in terms of revenues from green taxes as a percentage of GDP between 1999-2007, we have the largest decline among the 9 post communist EU member countries. (Tudor, 2011)

4. Conclusions

The level of the environmental taxes has a fundamental effect in the daily decisions of the people, starting from the mode of energy supply we are choosing, to the type of car we use, respectively to the materials chosen in constructions. On a more important scale, influenced by the GDP it is felt in pollution quotas, tariffs for the environmental services and incentive destined to the economic activities. From this point of view, the limits of the research were given by the transparency of the data and the lack of information about the measurements of the resources.

First of all, I will point out the fact that energy taxes have the biggest share in the environmental taxes. They are exponential bigger than the transport taxes or the pollution taxes. The main reason is the fact that they are more measurable. Moreover, even if transport taxes have a small share they keep up a straight line compared to the pollution taxes.

In conclusion, we can note that the highest share of environmental taxes in GDP is due to energy taxes, followed by transport taxes and pollution taxes. The maximum was registered in 2000 with 2.98% of the energy taxes, and the minimum was recorded with 0,1% by the pollution taxes for several consecutive years. However, we can say that their share compared to other EU countries is extremely low. This means that the lack of information and awareness of the importance of green finance affects Romania's economy. In the future, I'm willing to go deeper into the revenues of this three categories of taxes and to analyze each of them separately. More, I will try to make a

difference between revenues collected from public institution and private institution. With other words, I hope to contribute to the development towards a green economy.

References

Comisia Europeană. (2019). *Evaluarea punerii în aplicare a politicilor de mediu*. Bruxelles.

EUROPEAN ECONOMY. (2003), The EU economy: 2003 review:

http://ec.europa.eu/economy_finance/publications/pages/publication7694_en.pdf

Eurostat. (2019). Available: <https://ec.europa.eu/eurostat/web/environment/environmental-taxes/main-tables>

Höhne, Khosla, Fekete, Gilbert,. (2012). Mapping of Green Finance Delivered by IDFC Members in 2011, Ecofys.

International Finance Corporation. (2013). *Mobilizing Public and Private Funds for Inclusive Green Growth Investment in Developing Countries*.

Kahlenborn, W. (2017). *Defining "green" in the context of green finance*. Luxemburg: Publications Office of the European Union.

Lindenberg, N. (2014). Definition of Green Finance. German Development Institute.

Tudor, A. (2011). *Analiza taxelor de mediu în România*. Available: ECOLOPOLIS: <https://www.ecopolis.org.ro/files/Analiza%20taxelor%20de%20mediu%20in%20Romania.pdf>

Wang, Y., & Zhi, Q. (2016). The Role of Green Finance in Environmental Protection: Two Aspects of Market Mechanism and Policies. *Energy Procedia, Volume 104*, 311-316.

PERFORMANCE AUDIT – AN INSTRUMENT TO IMPROVE THE QUALITY OF THE ECONOMIC-FINANCIAL MANAGEMENT OF THE AUDITED PUBLIC ENTITIES IN ROMANIA

Réka LAKATOS-FODOR

Doctoral School of Economic Sciences, Faculty of Economic Sciences, University of Oradea, Romania

lakatos82reka@gmail.com

Abstract: *Performance audit (PA) is a method of evaluating financial performance in public administration in many countries, as well as in Romania. It is often characterized by words such as efficiency, effectiveness and economy. However, the specialty literature takes into account a much wider variety of characteristics. This paper first presents the history of the definitions of performance/performance audit and concludes that so far both performance and performance audit have been defined in ways that lack clarity. The paper presents the essential qualities of a good performance audit and the current situation in Romania in this field. Is performance auditing required in the public sector? Certainly yes, because the financial performance of public entities is becoming more and more important.*

Keywords: performance, economy, efficiency, effectiveness, performance audit, public sector, state and local government

JEL classification: A1; G2; H1; H7.

1. Introduction

This work is referred first to the improvement of the financial performance of public sector entities in Romania through performance auditing.

Public entities provide important services, such as medical services, education, transport and justice. Their financial performance affects the quality and cost of services. The comparisons between the different countries underlined that the quality of the services provided by the public entities has a significant effect on the national welfare. Creating and measuring performance within public sector entities has also become a priority in the Romanian public sector. The limited resources force the Government to have greater control over the use of public funds.

2. Methodology of scientific research

The methodology of the scientific research of this paper was realized through a review of some approaches, ideas and opinions regarding performance / performance audit. In combination with the critical analysis method of publications and various articles in international literature, I also used the analysis of annual reports prepared by the Romanian and by the European Court of Accounts. The main objective of this research is to emphasize the importance of performance audit in the public sector in Romania and to present the essential qualities, which a good performance audit must carry out. The paper concludes with issues for further investigations.

3. Literature review

The literature treats differently the concept of performance and the concept of performance audit.

Performance means progress, effort, it means doing always the best (Bourguignon, 1995). Peters & Waterman (1982) approach the entity's performance through social

performance. Thus, performance is assimilated to excellence, which is based on four determinants, efficiency, social identity, achieving goals, reputation / fame.

Rudman (1995) states that performance is a process by which an entity tries to achieve its goals. Alzarad&Sépari (1998) consider that performance implies a global view of interactions between internal and external indicators, quantitative, technical and human indicators, physical and financial indicators of management. The above approaches emphasize that performance in the public sector is important, complex and difficult to define, but we can see that performance is defined according to how the entity's resources are used to achieve the proposed objectives.

Those in the opposition propose measuring performance using indicators. Stewart & Walsh (1994), suggest measuring performance in public sector entities through a set of indicators. Thus, Likierman (1993) considers that performance indicators in the public sector are valuable managerial instrument if used properly.

The measurement of performance through „the three Es”, economy, efficiency, effectiveness, a new paradigm in the public sector, appeared in 1982, under the name of „value for money”. Jones & Pendlebury conclude that economic measurement is relative and usually refers to inputs. In opposition, Rudman (1995) states that focus is on inputs related to outputs and proposes the completion of economic measures with efficiency and effectiveness measures, arguing that economic measures are not sufficient to measure economic performance. Stewart & Walsh (1994) address the issue of performance assessment within public sector entities, depending on the political perspective, emphasizing that these entities are owned and controlled by the Government.

When it comes to performance audit, we must also mention the authors Pollitt and Summa. The public sector audit, described by Pollitt and Summa (1999: 1) represents „one of the oldest and most venerable state functions”. Another interesting element is that not all Supreme Audit Institutions in developed countries carry out performance audit in the public sector, such as Denmark, Greece, Italy, South Korea or Spain (Barzelay, 1997). „The three Es” of efficiency, economy and efficiency remain a common basis in defining the PA as Parker concludes (1986), together form the „generally accepted conceptual definition”. However, there are some problems associated with „the three Es” which serves as the basis for PA definition. First, not all performance audits involve all three Es. For example, some have focused on economy and efficiency, but not on effectiveness, while others investigate the three Es only when they actually focus on the procedures (Pollitt și Mul, 1999; Flesher & Zarzeski, 2002).

4. The essential qualities of a good performance audit

The performance audit process comprises three phases, planning, execution and reporting. In order to guarantee as much as possible, the success of a performance audit, all three phases must have certain qualities. To establish a framework to enable prepare high quality audit reports and in a timely manner, as well as to avoid any unnecessary activity, the performance audit must be carried out using the SMARTEST approach, as follows:

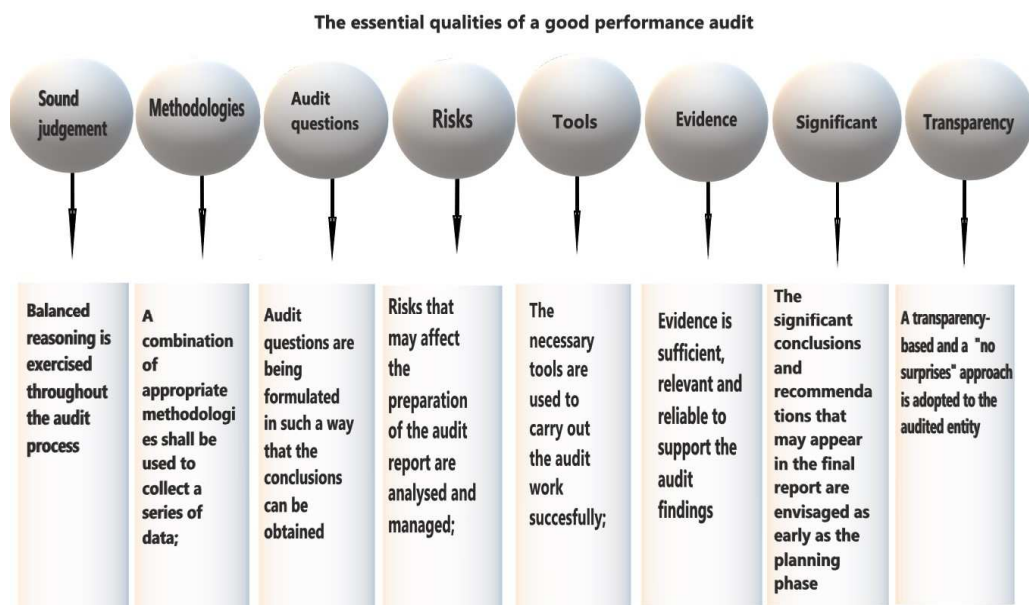


Figure1: The essential qualities of a good performance audit

Source: Author's work based on the Performance Audit Manual (2017) of the European Court of Accounts, pp. 24

5. Performance Audit in Romania

In Romania, the Court of Accounts is the Supreme Audit Institution, which based on the Law on the organization and functioning of the Court of Accounts, exercises the PA of the use of the financial resources of the state and of the public sector. The PA is performed based on its activity program, both at the end and during the implementation of the verified projects, programs, processes or activities. According to national legislation, the Court of Accounts submit to Parliament and to the deliberative public authorities of the administrative-territorial units, reports about the use and the administration of public funds in accordance with the principles of legality, regularity, economy, efficiency and effectiveness. The specific activity is performed on the basis of the audit procedures, contained in the Court's regulation and in its own audit standards, developed and approved by it. The Court of Accounts own auditing standards are developed in accordance with the International Standards of the Supreme Audit Institutions (ISSAI).

In 2018, the Court of Accounts carried out 30 performance audit missions in the areas considered priority, at a number of 104 entities in the fields of social assistance, health, environment, transport, economy, education, culture and public administration.

6. Conclusion

In Romania, the Court of Accounts seeks to promote accountability, fairness and best practices in the efficient management of public resources, in order to strengthen the financial management and reports to Parliament on how the public resources were used in the expired budget year. Recommendations made through the performance audit by the Supreme Audit Institutions must be the instruments for public entities, by which these entities improve its own financial resource management activity in the public sector. Recommendations made through the performance audit have to bring

added value in terms of financial management and have to increase the degree of citizen's satisfaction.

References

- Alazard, C.&Separi, S. (1998), *Management control*, Dunod, Paris
- Barzelay, M. (1997) *Central audit institutions and performance auditing: A comparative analysis of organizational strategies in the OECD*. *Governance*, 10 (3) pp 235-60.
- Bourguignon, A (1995) *The disease in sight ...or the many functions of the accounting vocabulary*, *Controle, Audit, Vuibert*, home 3
- Curtea de Conturi a României, Raport de activitate pe anul 2018, (pp. 27), [online]: available at <http://www.curteadeconturi.ro/>, accessed on 04.11.2019
- Curtea de Conturi a României, Regulament privind organizarea și desfășurarea activităților specifice Curții de Conturi, precum și valorificarea actelor rezultate din aceste activități, published in the Official Monitor of Romania, Part I, Nr. 547 of July 24, 2014, [online]: available at <http://www.curteadeconturi.ro/>, accessed on 04.11.2019
- Curtea de Conturi Europeană, (2017, pp. 24), Manual de audit al performanței, Direcția Comitetului pentru controlul calității auditului (DQC)
- Flesher, D.L. and Zarzeski, M.T. (2002) *The roots of operational (value-for-money) auditing in English-speaking nations*. *Accounting and Business Research*, 32 (2) pp 93-104. Flinders
- Kells, S. and Hodge, G. *Performance Auditing in the Public Sector: Reconceptualising the Task* (2009), *The Journal of Contemporary Issues in Business and Government*, Vol 15, Issue 2 pp. 36-60. Available at SSRN: <https://ssrn.com/abstract=2296516>, accessed on 01.11.2019
- Law No. 94/1992, republished, Law on the organization and functioning of the Court of Accounts, art. 26, art. 40
- Lickierman, A (1993), *Performance indicators: 20 early lessons from managerial use*, *Public Money and Management* 13(4)
- Meyer, M. W., & Gupta, V. (1994). *The performance paradox. Research in Organizational Behavior*, 16, 309-369.
- Parker, L.D. (1986) *Value for money auditing: Conceptual development and operational issues*. Auditing discussion paper, No. 1. Australian Accounting Research Foundation, Caulfield.
- Peters, T. & Waterman, R. (1982), *In Search of Excellence*. New York: Harper and Row
- Pollitt, C. and Mul, R. (1999) Criteria. In C. Pollitt, X. Girre, J. Lonsdale, R. Mul, H. Summa and M. Waerness (eds) *Performance or Compliance? Performance Audit and Public Management in Five Countries*. Oxford University Press, Oxford. 70-104.
- Pollitt, C. and Summa, H. (1999) *Performance audit and public management reform*. In C. Pollitt, X. Girre, J. Lonsdale, R. Mul, H. Summa and M. Waerness (eds) *Performance or Compliance? Performance Audit and Public Management in Five Countries*. Oxford University Press, Oxford. 1-10. Power
- Rudman, R. (1995), *Performance Planning and Review*, Pitman, Long Acre, London
- Stewart, J. & Walsh, K (1994), *Performance measurement: when performance can never be finally defined*, *Public Money and Management* 14(2) 15
- Țurlea, E., Ștefănescu, A. and Dumitru, V. (August 2008) *Romanian public sector entities between performance and audit of performance*, [online]: Available at SSRN: <https://ssrn.com/abstract=1260386> or <http://dx.doi.org/10.2139/ssrn.1260386> accessed on 01.11.2019

HUTNER'S COEFFICIENT. HOW TO DETERMINE FINANCIAL DEPENDENCE AND FINANCIAL APPLICABILITY

Claudia-Mioara POP

Doctoral School of Economic Sciences, Faculty of Economic Sciences, Oradea, Romania

m.popclaudia@yahoo.com

Abstract: *The foundation of an adequate policy of balancing the local budgets for Romania imposes the necessity to respect some basic principles in achieving the financial and administrative decentralization. In this paper the author presents important aspects of local autonomy seen through the lenses of decentralization. In the analysis of financial decentralization it is very important both the way in which the entrustment of responsibilities is made and the allocation of the sources of income to the local public administration. At a stage where multiple researches have already been undertaken regarding the process of financial decentralization, in Romania, the risk of adopting measures without professional and updated evaluations related to the impact of public policies on this topic is considerable high. Any process of decentralization of services is closely linked to the decentralization of financial instruments and techniques and without a financial autonomy one cannot speak of a real autonomy of local communities regardless of the level on which they are located.*

Keyword: budget balancing; Hutner's coefficient; local budget;

JEL classification: H60, H61, H69

1. Introduction

Financial decentralization represents the transfer of responsibilities and resources to the local authorities in order to register the highest quality and quantitative level of the services provided in the interest of the population, based on the principle of bringing public services closer to the citizens, using the method of entrustment and the method of income sharing. In other words, the financial decentralization tries to ensure the necessary balance between the resource portfolio of each public authority and the necessary expenditure for the services provided in the interest of the population.

Balancing local budgets is based on the principle of balancing needs with resources. The ideal balancing model is identified by the equality between the needs (the expenses) of the local authorities and the total resources, consisting of balancing amounts, broken down quotas and own incomes. When the ideal balancing model is not reached, balancing grants are implemented that fall into 2 broad categories: conditional grants which, from the perspective of local authorities, to a small extent meet the preferences of consumers, limiting local autonomy and unconditional grants, which finance the needs real taxpayers, which are used to reduce vertical and horizontal imbalances.

The model of budget balancing adopted in Romania is represented by the financial decentralization according to the model of Central and Eastern Europe, the responsibilities being transferred and only then the resources. Therefore, we are facing the emergence of pressures on local budgets, the responsibilities transferred exceeding the allocated resources. This situation, often encountered in Romania, is solved by the allocation of conditional or unconditional grants to local communities, once the annual budget law is approved.

2. Financial imbalances

The imbalances that determine the use of the grants are classified in their turn into vertical imbalances and horizontal imbalances.

The degree of financial dependence of the local authorities signifies the weight between the quotas and the amounts deducted from the income tax, with the amounts broken down by VAT, as well as budget transfers received by the local authorities from the state budget or other budgets and the total revenues of local budgets.

The vertical imbalance manifests at the territorial administrative unit level and represents the situation in which the transfer of responsibilities entrusted to the local administration exceeds the financial capacity. The measurement of the vertical imbalance is calculated using the Hutner's Coefficient which indicates the degree of financial dependence of the local authorities to the level of the central authority. The Hutner coefficient (CoH) is calculated according to the relation:

$$\text{CoH} = 1 - \frac{\text{Income which is not controlled by local authorities}}{\text{Total expenses by local authorities}} \quad (\text{See Bolos M.I., p. 81})$$

If the value of Hutner's coefficient approaches to 1, it results in a low level of imbalance and high financial autonomy. If the value of Hutner's coefficient approaches to 0, it shows a high level of imbalance and low financial autonomy.

3. Case study: Romania

In Romania, the value of Hutner's coefficient shows a downward trend, indicating an increasing vertical imbalance and reduced financial autonomy, thus increasing the pressures on the balances of local budgets.

In 2018, the county with the highest financial autonomy was Calarasi, being succeeded by the capital of the country, Bucharest. On the opposite side is situated Galati county and Dambovitza county, registering a low financial autonomy. (See Table 1)

Table 1: Hutner's Coefficient calculation for each county of Romania (including the capital – Bucharest) for 2018 - thousand lei

County Col 1	Sums allocated from the quotas deducted from income tax to balance the local budgets Col 2	Sums deducted from VAT to balance the local budgets Col 3	Transfers and grants from the state budget Col 4	Total expenses Col 5	Hutner's Coefficient Col 6= 1- (Col 2+ Col 3 + Col 4) / Col 5
ALBA	16,346.00	33,172.00	98,439.00	380,247.00	0.61
ARAD	20,411.00	0.00	81,153.00	293,205.00	0.65
ARGES	29,507.00	20,003.00	148,480.87	485,182.11	0.59
BACAU	17,305.00	127,341.00	174,781.00	554,494.90	0.42
BIHOR	23,249.00	61,126.00	145,274.20	431,709.96	0.47
BISTRITA-NASAUD	9,148	26,805.00	192,825.00	434,476.00	0.47
BOTOSANI	8,539.00	77,512.00	78,183.00	248,579.50	0.34
BRASOV	33,370.00	9,335.00	103,903.52	476,822.81	0.69
BRAILA	9,950.00	15,468.00	117,968.27	347,221.38	0.59
BUZAU	12,765.00	51,170.00	62,594.62	398,312.76	0.68
CARAS SEVERIN	7,588.00	30,168.00	97,160.85	214,405.32	0.37

CALARASI	0.00	3,542.00	898.00	113,638.00	0.96
CLUJ	46,898.00	69,134.00	64,262.35	982,731.70	0.82
CONSTANTA	32,420.00	43,082.00	143,815.12	585,800.90	0.63
COVASNA	6,840.00	0.00	56,683.00	155,800.47	0.59
DAMBOVITA	12,587.00	78,908.00	227,577.00	416,233.00	0.23
DOLJ	21,940.00	67,309.00	112,890.00	479,069.00	0.58
GALATI	17,109.00	76,537.00	129,299.50	253,569.36	0.12
GIURGIU	6,409.00	54,225.00	46,586.00	157,806.00	0.32
GORJ	11,874.00	34,953.00	117,879.18	276,146.89	0.40
HARGHITA	10,933.00	56,641.00	78,932.50	282,971.82	0.48
HUNEDOARA	15,543.00	39,998.00	116,813.00	281,621.86	0.39
IALOMITA	6,580.00	15,081.00	97,025.00	229,573.00	0.48
IASI	30,934.00	23,143.00	222,535.41	644,091.78	0.57
ILFOV	36,480.00	0.00	41,552.00	206,152.00	0.62
MARAMURES	14,130.00	88,104.00	85,740.00	387,643.40	0.52
MEHEDINTI	6,968.00	63,498.07	146,597.22	319,775.38	0.32
MURES	21,600.00	63,889.00	155,968.00	907,307.00	0.73
NEAMT	11,347.00	0.00	140,179.00	416,112.00	0.64
OLT	11,540.00	61,347.00	160,991.00	364,360.00	0.36
PRAHOVA	30,657.00	11,753.00	181,420.00	556,278.00	0.60
SATU MARE	11,814.00	52,636.00	308,192.00	488,648.00	0.24
SALAJ	6,751.00	12,112.00	90,354.47	250,086.00	0.56
SIBIU	23,837.00	3,250.00	115,519.46	388,739.52	0.63
SUCEAVA	15,305.00	102,761.00	201,579.67	536,142.53	0.40
TELEORMAN	7,527.00	51,150.00	66,123.00	194,324.00	0.36
TIMIS	47,230.00	21,472.00	131,691.00	428,032.00	0.53
TULCEA	7,093.00	0.00	53,678.00	222,622.00	0.73
VASLUI	7,995.00	116,656.00	92,385.28	389,078.54	0.44
VALCEA	10,967.00	58,838.00	130,239.91	304,429.67	0.34
VRANCEA	8,259.00	33,067.00	133,469.00	361,157.00	0.52
BUCURESTI	91,302.00	5,160.00	467,500.35	6,134,959.00	0.91

Source: Author's elaboration based on data from the general budget of the territorial administrative units

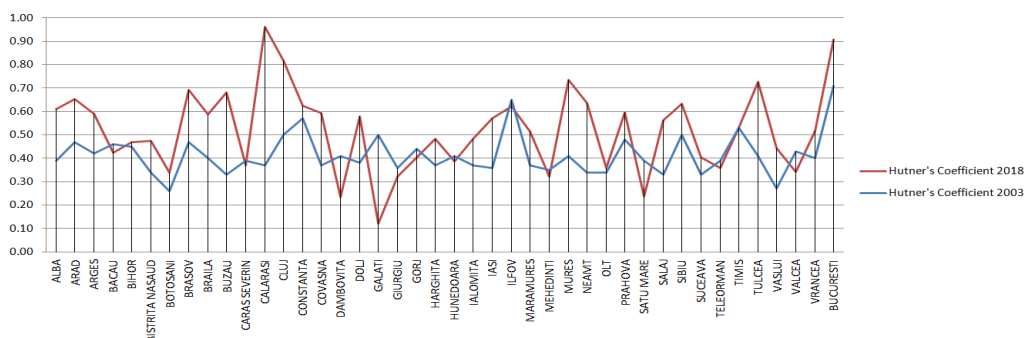


Figure 1: Graphic representation of the budgetary imbalance for each county in Romania, for 2018 and 2003

Source: Author's elaboration based on data from Hutner's Coefficient calculation (Bolos M.I., p.709)

In 2018, the national average of the Hutner's coefficient is 0,52 which means an average level of financial autonomy. Chart 1 shows the major discrepancies between the financial dependence of each county in 2018. In 2003 it can be observed that, although the Hutner's coefficient at national level is still close to the average (0.47), there is no such high discrepancy in the county level, showing a higher balance and an equality between counties than in 2018. Therefore, there is a significant financial control of the central authority over the local entities.

5. Conclusion

Given the knowledge of the basic notions for reducing the financial imbalances and the existing budget balancing models, I think that an analysis of the present values of the vertical and horizontal imbalances at the different regions of the country could be of interest, especially since the trends have been towards increasing financial imbalances. A correlation with the situation in other European countries would also be useful in order to bring about improvements in the methods of budget balancing applied.

In view of the unfavorable results registered in Romania, it is appropriate to seek solutions for entering into an upward trend and trying to reach, ideally speaking, the ideal model of budgetary balance.

References

Bolos, M.I. (2006), *Bugetul si contabilitatea comunitatilor locale intre starea actuala si posibilitatile de modernizare*, Bucuresti, Editura Economica

Gaban, L and Bechi L. (2015), *Financial Autonomy in Local Romanian Administration*, Ovidius University Annals, Economic Sciences Series, 2015, vol. XV, issue 2, 439-443, available at

<https://econpapers.repec.org/scripts/search.pf?ft=FINANCIAL+AUTONOMY%27>, accessed in 30 November 2019

LENKA, M. (2019), *Formal Dimension of Fiscal Decentralization in the Context of Vertical Fiscal Imbalance and Financial Autonomy of Municipalities in Slovakia*, Politická ekonomie, 2, available at <http://www.amfiteatruconomic.ase.ro/>, accessed in 30 November 2019

Dogariu, E. (2010) *Studiu privind autonomia financiară locală în România*, 2010, Economie teoretică și aplicată Volumul XVII (2010), No. 6(547), pp. 65-73, available at http://store.ectap.ro/articole/478_ro.pdf, accessed in 30 November 2019

Ministerul Finantelor Publice, *Legea bugetului de stat pe anul 2018*, available at http://discutii.mfinante.ro/static/10/Mfp/buget2018/Legeanr2_2018abugetuluiidestat.pdf, accessed in 29 October 2019

HORIZON 2020 PROGRAMME. FINANCING RESEARCH, DEVELOPMENT AND INNOVATION PROJECTS IN GERMANY, POLAND AND ROMANIA.

Beatrix - Monica SPITZER, Ioana - Cristina CRĂCIUN (TIMOFEI)

Doctoral School of Economic Sciences, University of Oradea, Finance Department, Romania

beaspitzer@gmail.com

ioana.cristina.craciun@gmail.com

Abstract: *This paper will cover the necessary information concerning the financing activities of innovation research and development programs. For this aspect, the Horizon 2020 programme will be analysed, the biggest European Research and Innovation Programme, based on funds that consist of nearly €80 billion obtained for the years of: 2014-2020. The funding aspect of Horizon 2020 is particularly important because it helps the programme to properly distribute the amounts of money to the required sectors, in order to further develop that specific field or technology. Also, the paper will analyse the impact of the Horizon Programme on countries like Germany, Poland and Romania in order to evaluate the improvement of this project on the well-being of the countries mentioned above. Thus, the research question of this article is: which of the three countries: Germany, Poland or Romania managed to take the most benefits out of the Horizon 2020 programme's resources?*

Keywords: Research, Development, Innovation, Horizon 2020 programme.

JEL classification: O21; O31; O32.

1. Introduction and Background

It has been shown that innovation is responsible for developing new products or technologies that are useful for the society, by implementing a revolutionary idea that creates value for the companies, customers or even different countries.

Based on this starting point, Horizon 2020 is a financial instrument and also the biggest European's Research and Innovation programme with available funds covering about €80 billion of the expenses used for world-firsts and discoveries for the duration of 2014-2020. The aim of the project is to drive economic growth by using three key pillars: industrial leadership, excellent science and social challenges in order to achieve and sustain Europe's global competitiveness; and also to guarantee world class science. (European Commission, 2013)

In consequence, this paper also wants to analyse the implementation of the Horizon programme, in a developed country such as Germany, a medium developed county such as Poland and a lower developed country like Romania, in order to see how the research and development programs can help to improve new technologies.

Therefore, this article wants to find the answer for the research question: Which of the three countries: Germany, Poland or Romania managed to take the most benefits out of the Horizon 2020 programme's resources?

2. Research methodology and literature review

The methodological approach used for this paper, will mainly consist of secondary research, elaborated from academic journals, books and online websites. The main sources used to develop this article are based on the reports created by the European Commission and European Union, which properly describes the Horizon 2020 profiles for the three countries that are analysed in this paper: Germany, Poland and Romania.

The method of secondary research has been chosen in order to provide a well-defined academic background for the paper and eventually to deliver the answer of the research question. Also, the qualitative research method is applied, by using observation and comparison methods that will help analysing the case studies of the three countries. In the annual European Innovation Scoreboard 2019 report, developed by the European Union, a well presented comparative assessment of the research and development efficiency of the European Member States is presented by showing the countries research and innovation systems, also mentioning their strengths and weaknesses. This report is important because it helps lower developed countries to concentrate their efforts, in order to increase their development process.

3. Horizon 2020 Programs developed in Germany, Poland, Romania

It is well known that researchers have previously studied a wide range of industries within Europe and also around the world to come out with solutions to a broad variety of challenges. By doing so, people's lives were improved, the environment was protected and the European industry has become more competitive and sustainable. (European Commission, 2014) Therefore, the following sub-chapters will show the latest featured projects that were successfully implemented in three main countries: Germany, Poland and Romania.

3.1 Programs developed in Germany

The Horizon 2020 country profile for Germany featured the following projects: facilitating public procurement of bio-based innovation - by producing a handbook to support a turn towards a better sustainability; new drugs that can reduce the risk of stroke happening - by testing new anti-blood clotting treatment for patients that suffered from a brain haemorrhage; tailoring smart homes to senior and the disabled - by creating a voice controlled, hands-free system for smart homes to improve the everyday life of disabled people and nevertheless the sensor that thinks for itself, being a new type of biomedical sensor that works based on artificial intelligence.(European Commission, n.d.) By developing these projects, it has been shown, that Germany has obtained a number of 77837 organisations applying for Horizon 2020 programme, having nearly 14 630 participants accepted in the programme, from which the success rate proved to be 14,90%.

3.2 Programs developed in Poland

The Horizon 2020 country profile for Poland developed the below recent projects: non-invasive microscopic bio-imaging - by implementing an innovative optical-imaging method for biomedical applications for instance for eye diseases or diagnosis; more sustainable approaches for production and consumption - by increasing recycling methods and by cutting the waste, and lastly but not least Poland has also developed one programme that is preparing Europe's emergency services for a warmer future - by developing the emergency services such as fire-fighters or ambulances in order to help the first responders to improve their equipment and coordination. (European Commission, n.d.). Poland has shown a total number of 13221 applications to the Horizon programme, with final 1920 participants in the project, having a successful rate of 12,13%.

3.3 Programs developed in Romania

When considering the Horizon 2020 country profile for Romania the programs that were developed are the following: bio-energy villages by installing biomass-based district heating systems that relies on reducing the fossil fuel. Another program developed was the supra-molecular solutions for gene therapy by applying the insights of supra-molecular chemistry to biomedical applications. Also the new processes for safer medicines were developed for having more effective medicines.

Lastly, the programme of putting smart-phones at the centre of online security was developed by launching a smart phone-centric authentication platform which safely connects all online accounts with their user's identity. By doing so, this system is helping the society to protect against hacking possibilities and also to increase confidence in online commerce. (European Commission, n.d.) Eventually, Romania has noted a total number of 7092 organisations applied for the Horizon 2020 project, with 1067 active participants accepted in the programme, nevertheless showing a 12,15% success rate.

4 Research results

Based on the previous chapter, the answer for the research question: Which of the three countries: Germany, Poland or Romania managed to take the most benefits out of the Horizon 2020 programme's resources? will be detailed in the following paragraphs.

Firstly, it has been shown that Germany is a strong innovator, because its performance indicator has maintained a high level starting from 2011 until 2018. Germany's strongest innovation dimensions are intellectual assets, firm investments and innovators, while human resources and attractive research systems represent the weakest innovation dimensions. Secondly, Poland was ranked as a moderate innovator, because over time, its performance has increased relatively compared to 2011. Their strongest innovation dimensions are: innovation-friendly environment and employment impacts have the highest effects, while the lowest innovation dimension is the attractive systems and linkages. Thirdly, Romania has been ranked as a modest innovator. Over time, Romania's performance has decreased relatively compared to 2011, but afterwards starting from 2015 its performance started to increase. Also, while the innovation-friendly environment and the sales impact are the strongest innovative dimensions, firm investments and human resources are the weakest. All the three performance indicators of Germany, Poland and Romania could be seen in the figures below.

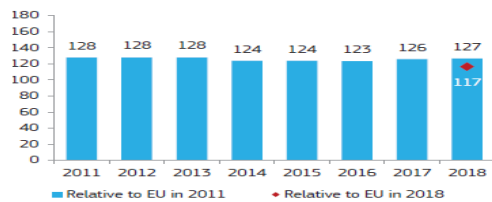


Figure 1: Performance indicator Germany

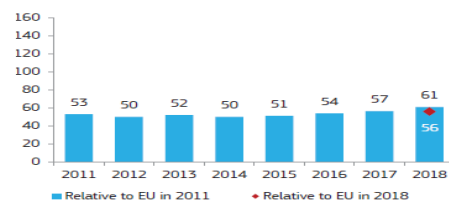


Figure 2: Performance indicator Poland

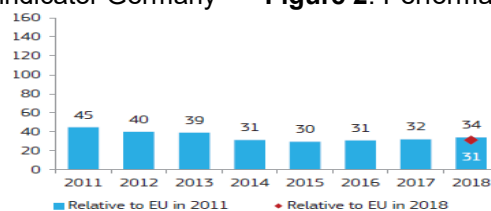


Figure 3: Performance indicator Romania

Source: European Union, (2019). European Innovation Scoreboard 2019. Luxembourg: Publication Office of the European Union, p.47,63,65

Consequently, the answer to the research question is that Germany benefits the most of the Horizon 2020 programme, because their participation number is 14392 (13,55% of EU total), they received funding of 7,03B (16,79% of EU total), being on 4th place in R&D intensity ranking and their success rate is 14,99% (11,98% of EU average) being the strongest innovator compared to Poland (participation number = 1386; funding 339M; 20th place on R&D intensity ranking; success rate=12,19%) and Romania (participation number 1042; funding 189,2M; 28th place on R&D intensity ranking; success rate = 12,16%).

4. Conclusions

To conclude, in this paper it has been shown that the aim of Horizon programme 2020, was to create the proper framework conditions for ensuring growth and competitiveness. As shown in the figures above, Germany achieved the most out of the Horizon Programme compared to Poland and Romania. Thus, as a suggestion for further research, the lower developed countries such as Poland and especially Romania should take the example of Germany in order to develop and achieve their level of competitiveness or even higher levels. For this, Poland and Romania, should firstly try to invest in their applications number, which eventually would increase their success rate and secondly, they should keep their research initiative at least at a constant scale in order to promote creation of new projects. Also, it could be observed that the health industry was widely researched in all the three countries, which shows a clear benefit in this industry, and as a recommendation, researchers should also investigate the new trends in informatics science that could highly improve people's productivity (Galsworthy and McKee, 2013). As a prediction for future, more development and innovation projects will be needed, because this generation of information, demands more exploration, thus research will be one of the most important tasks in the society. (Jain, Triandis and Weick, 2010, p. 20)

References

- European Commission, (n.d.) *Horizon 2020 country profile for Poland, Data by Country - Research and Innovation - European Commission*. [online] Available at: <https://ec.europa.eu/research/horizon2020/index.cfm?pg=country-profiles-detail&ctry=Poland> [Accessed 1 Nov. 2019].
- European Commission, (n.d.) *Horizon 2020 country profile for Romania, Data by Country - Research and Innovation - European Commission*. [online] Available at: <https://ec.europa.eu/research/horizon2020/index.cfm?pg=country-profiles-detail&ctry=Romania> [Accessed 2 Nov. 2019].
- European Commission, (n.d.), *Horizon 2020 country profile for Germany, Data by Country - Research and Innovation - European Commission*. [online] Available at: <https://ec.europa.eu/research/horizon2020/index.cfm?pg=country-profiles-detail&ctry=Germany> [Accessed 3 Nov. 2019].
- European, Commission, (2013) *Horizon 2020 - European Commission*, [Online], Available at: <https://ec.europa.eu/programmes/horizon2020/en/what-horizon-2020> [Accessed 26 Oct. 2019].
- European, Commission, (2014) *Horizon 2020 in brief*, Luxembourg: Publications Office, p.5., ISBN: 978-92-79-33057-5
- European, Union, (2019) *European Innovation Scoreboard 2019.*, Luxembourg: Publication Office of the European Union, pp.47,63,65., ISBN 978-92-76-01394-5
- Galsworthy, M. and McKee, M. (2013) *Europe's 'Horizon 2020' science funding programme: how is it shaping up?*, *Journal of Health Services Research & Policy*, 18(3), pp.182-185.
- Jain, R., Triandis, H. and Weick, C., (2010) *Managing research, development and innovation*. 3rd ed. Hoboken, N.J.: Wiley., p. 20, ISBN 978-0-470-40412-6.

ELEMENTS OF FINANCIAL DECISION PROCESS IN TECHNOLOGY TRANSFER ENTITIES

Alina Baba

Faculty of Economic Sciences, Oradea University, Oradea, Romania,
baba.alina79@gmail.com

Abstract: *In this article we explore the financial decision in technology transfer entity. These financial decisions follow the productive potential of the technology transfer entity (TTE) as an element that generates innovation. We also explore the evolutions and trends in the field of research of TTE. The technology transfer entity must have an extremely strict financial discipline regarding the behaviour in the field of financing, namely: for the long-term financial balance to be as strong as possible, it is important that most of the fixed capital (investments) are covered with equity. Thus, the risk will be mitigated and shareholders will be offered a higher degree of security and the financiers a higher degree of credibility.*

Keywords: technology transfer entity; investment; capital.

JEL classification: O32

1. Introduction

According to the concept of the well-known American expert and professor in the field of management Herbert A. Simon, the elaboration or creation of the managerial decision is synonymous with the entire management process. Thus, the components of the financial decision-making process within the technology transfer entities (TTE) are: conception, design, choice and implementation. The concept stage consists in the definition of the problem, and an important point is the classification of the problem. Extremely consistent and marked, the design stage involves the creation, development and analysis of possible financial risks (Scarlat, E., Bolos, M.I. and Popovici, I. F. 2011) and includes: - understanding the problem, - generating solutions, - testing the feasibility of the solution. The fundamental problem is represented by the financial modeling which in turn determines the conceptualization of the problem and the abstraction towards a numerical model. The choice stage involves finding a solution to the numerical model. However, solving a model is not the same as solving the problem that the model represents. The solution of the model leads to the recommendation of the solution of the problem. If the recommended solution is successfully implemented, then the problem can be considered as resolved. When the proposed solution seems to be the most reasonable we are ready for the final stage, the actual implementation.

2. Methodology

The methodological approach to this paper is a literature-review of the most relevant and the most cited papers in the field emphasizing their significance.

3. The Financial Decision-Making Process

Within the TTE, the financial decision-making process is the final product of the management process carried out within the financial actions taken according to the object of the technology transfer. The financial decision, like the other types of decisions in the

TTE (economic, technical, organizational), is the result of a complex decision-making process, which includes the stages of knowing the financial reality, in the form of the phenomenon and the financial actions required by the economic and social activities in entity and from the economy, as well as the stages of learning the optimal solution, which will be the content of the decision and will be realized in the context of the process of execution of the financial program. The financial decision is a rational process of choosing the best financial solution that will generate the effective use of the financial resources so that the entity obtains a higher profit. Financial decisions must meet the following objectives: to be statistically substantiated, to be correlated with a market analysis, to be adopted by competent persons, to be precise and succinct, to be adopted and announced in a timely manner.

The hierarchy of the financial decisions of the TTE can be made according to several principles, as follows: 1) by purpose: strategic decisions, tactical decisions, operational decisions; b) according to the nature of the activities that generate the financial flows: investment decisions, with direct influence on the structure of the assets of the company, so on their degree of liquidity, financing decisions that determine the structure of the liabilities and exerts changes in the degree of liability of the liabilities and in the cost of capital, profit sharing decisions that influence the way the dividends are distributed, having direct implications on investments and self-financing.

4. Long-Term and Medium-Term Financial Decisions

The foundation and adoption of managerial financial decisions involve decisions on long-term capital placement and the efficient use of fixed capital, decisions on working capital and decisions on medium-term financing. The decisions regarding the values in research and development include the decisions regarding the short-term achievements, the optimization and definition of the financing policy, the management of the results portfolio. The decisions regarding the financial liquidity of the TTE refer to the margin of safety of the cash availability and the assets of the entity. The decisions regarding the financing of a research - long-term innovations include the decisions regarding the creation of own capital, the constitution of the social capital, the establishment of financial reserves, the policies of long, medium and short term debt and the policies of dividends and self-financing. The decisions regarding the fixed capital refer to the procurement and maintenance of the necessary infrastructure to ensure the technological flow necessary to realize the research - innovation. The financial decisions aim at the purpose of the research - innovation, the financial return of the innovation and the expected profit. Any research-innovation project is absolutely necessary to be financial evaluated: profit analysis, net present value and internal rate of return.

The importance of these decisions is generated by the concrete way of using the capital included in assets without which the TTE cannot function. These financial decisions follow the productive potential of the TTE as an element that generates the size of the exits from the system, to create innovation.

The decisions regarding the working capital refer to the sizing of the circulating assets meant to ensure the substance and the continuity of the research-development-innovation process. They must integrate the minimum need for capital. Their main feature is that it is in opposition to the economic and technical decision promoted by other departments in the technology transfer entity, provoking the permanent confrontation of the financial decision of this type with the economic and technical decision during the course of the technological transfer activity. Decisions on the long-term financing of the TTE are decisions that concern the functioning of the TTE in terms of solvency and long-term financial balance. They are financial decisions and have major implications on the management of the entity, its market strategy and are a factor in increasing efficiency. They also concern the opportunity to purchase capital, the reasonable cost of capital, the source of the capital.

These are directly related to the access to financing of the technology transfer entity, financial performance, access to additional capital resources on the market. These decisions do not physically concern the means affected by the research - innovation, but the capital structure, the financial structure, the debt policies, the profit distribution policies, the policies regarding the market value of the innovations.

The fundamental principle in the financial decision-making process of the technology transfer entity, regarding long-term financing, is that of chronological equivalence. According to this principle, any capital investment in assets must be financed on the basis of a resource whose due period is equal to the duration of the investment's existence. In the case of the technology transfer entity, the resource is the innovation produced as a result of the research - development - innovation process.

5. Evolutions and Trends in the Field of Research of Technological Transfer Entities

According to the articles in the specialized literature studied, the financing of innovative enterprises is based in many situations on venture capital (Venture Capital - VC). Several relevant articles study the phenomenon both in the US and in the EU. We will review a few relevant articles pertaining to the United States. It is considered that the reforms initiated in 1979 by the US Ministry of Labor (Department of Labor) had a very large impact on the raising of funds that would then be invested in innovation and technology transfer.

Kortum and Lerner (2000) examine the influence that has venture capital on patented inventions in the United States. The study looks at twenty industrial areas over thirty years. The authors discover a direct causality between the increased activities of VC as a result of the 1979 reforms and the significant increase in obtaining patents. While the percentage of VCs in direct research and development activities averaged below 3% during 1983-1992, the authors' estimates suggest that VCs from that period are responsible for over 8% of industrial innovations; a very good example regarding the efficiency of VC in research, development, innovation.

Not all data match the results obtained in the above article. Thus, another interesting question is related to the precedence of VC investments on innovation, a question that is answered by Hirukawa and Ueda (2009). Public policy makers believe that the positive relationship between VC and innovation is sufficient evidence that VC stimulates innovation - the so-called "VC first hypothesis". This interpretation, the authors consider, is one-sided because there may be an inverse causality by which innovations induce VC investments - the so-called "innovation-first hypothesis". In the latter situation the emergence of new technology increases the emergence of new start-ups that increase the demand for VC investments.

The causality between VC investments and innovation in the US manufacturing industry was analyzed using the increase of the total productivity factor (TFP) and the increase of the number of patents as a measure of innovation. By applying regressions it is observed that often and statistically significant, the increase of TFP is related to future investments of VC, which is consistent with the hypothesis that innovations induce investments ("innovation-first hypothesis"). Few evidence has been found to support the hypothesis of initial venture capital investments ("VC-first hypothesis"). Even more surprising, the one-year delay in VC investments is often negatively and statistically significantly linked to both the increase in TFP and the increase in the number of patents.

The importance of VC investments in innovation is also recognized by the European Union. Promoting research and development (R&D) is one of the seven main goals of the EU 2020 Strategy, which aims to bring at least 3% of GDP to public and private R&D spending (European Commission, 2011). To secure funding in April 2018, the European Commission and the European Investment Fund (EIF) have launched a pan-European Venture Capital Funds-of-Funds the VentureEU program to stimulate investments in start-ups and innovative scale-ups throughout Europe. Access to venture capital for innovation

plays an essential role. This type of capital has grown strongly in the US, but less so in Europe (Bottazzi and Da Rin, 2002). According to the authors, this is the first article evaluating VC in Europe and comparing it with the US, finding that the gap between the two continents is large and continues to grow. The first conclusion is that VC has helped companies to be born and overcome the constraints of traditional bank loans. The second conclusion is that these funds had a small impact on the ability of firms to attract private capital, to develop and not least to create jobs.

As in the United States and the European Union, the question of direct causation between venture capital and innovation is raised. Geronikolaou and Papachristou (2012) find on the basis of empirical data that innovation in Europe is the one that creates the demand for venture capital. This finding is consistent with what is happening in the US.

Launching a new product on the market involves not only new production costs but also involves working capital with which innovative companies pay their suppliers and workers until companies find new customers, new markets or become capable of generating liquidity.

6. Conclusions

The TTE must have an extremely strict financial discipline regarding the behaviour in the field of financing, namely: for the long-term financial balance to be as strong as possible, it is important that most of the fixed capital (investments) are covered with equity. Thus, the risk will be mitigated and shareholders will be offered a higher degree of security and the financiers a higher degree of credibility. The possibility of increased market access to additional capital resources needs also to be created. The networking capital must be optimally dimensioned because it mirrors the short-term financial balance, the prudence that the management team of the TTE demonstrates to avoid financial bottlenecks.

The decisions regarding the net working capital of the TTE are in contradiction with the efficiency with which the resource is used representing the permanent capital, determined by the short-term capital cost. The financial market literature shows that, in general, the cost of short-term capital is lower than the cost of long-term capital.

If operations with venture capital are made easier, if access to credit lines and credit guarantees are provided, these actions could complement direct and indirect support to reduce financial pressure on innovative firms in Europe.

References

- Bottazzi, L. and Da Rin, M. (2002) "Venture Capital in Europe and the Financing of Innovative Companies", *Economic Policy* Vol. 17, No. 34, pp. 229-270.
- European Commission (2011). Mid-Term Review of the R & D & I Framework, Commission Staff Working Paper, European Commission, Brussels, [online], Available: ([Http://ec.europa.eu/competition/state_aid/legislation/rdi_mid_term_review_en.pdf](http://ec.europa.eu/competition/state_aid/legislation/rdi_mid_term_review_en.pdf)) [10.08.2011].
- Geronikolaou, G. and Papachristou, G. (2012) "Venture Capital and Innovation in Europe", *Modern Economy*, Vol. 3, No. 4, pp. 454-459.
- Hirukawa, M. and Ueda, M. (2009) "Venture Capital And Innovation: Which Is First?", *Pacific Economic Review*, Vol. 16, No.4, January 2009.
- Kortum, S. and Lerner, J. (2000), "Assessing the Contribution of Venture Capital to Innovation", *The RAND Journal of Economics*, Vol. 31, No. 4, February 2000.
- Scarlat, E., Bolos, M.I. and Popovici, I. F. (2011) "Agent –Based Modeling in Decision Making for Project", *Journal of Economic Computation and Economic Cybernetics Studies and Research*, Vol. 45, No. 2.

THE IMPORTANCE OF CAPITAL MARKETS FOR ECONOMIC GROWTH WITH EMPHASIS ON THE ROMANIAN FUTURE MARKET STATUS AS SECONDARY EMERGING MARKET

Maria-Anca Craiu

Ph.D student, Romanian Academy, National Institute for Economic Research "Costin C. Kiritescu", Bucharest, Romania

marycraiu@yahoo.com

Abstract: *Capital market plays an important role in mobilizing resources, and diverting them in productive channels. In this way, it facilitates and promotes the process of economic growth in the country. The degree of development of a capital market can also give indications about the level of development of a country's economy and can create a competitive advantage for that country. The paper tries to give evidence of the importance of the creation of the Capital Markets Union and special emphasis is put on the latest developments of the Romanian capital market and its recent upgrade status and the benefits of this achievement.*

Keywords: capital markets, economic growth, competitiveness

JEL classification: D53, G23

1.Introduction:

Europe's share of global GDP has fallen from 30% in 2007 to 23% in 2013¹. Over the same period, Member States' average ranking on the World Economic Forum's Global Competitiveness Index has fallen from 34 to 38 out of 144. Europe's competitiveness on 'Financial Market Development' has particularly suffered, with average rankings falling from 36 to 55². Europe should therefore strive to improve competitiveness, a key driver of growth, and attract international investment which has also declined by €9.5 billion (13.5%) over the same period³.

The European economy has seen a rapid decline in bank lending in recent years as a response to the banking crisis, leading to significant problems for businesses in the availability of bank credit. Compared to other major economies (such as the US), the EU relies much more heavily on bank loans as a source of finance, than other forms of non-bank lending (such as venture capital, investment funds, business angels and family & friends). Whilst recent EU action had put in place a systematic approach to banking regulation (and there may be a case to review some of this regulation to ensure it remained relevant and proportionate), there had been little action on non-bank lending.

There was significant potential to expand the role of capital markets in financing the European economy, compensating for retrenching banks and providing capital at competitive rates to businesses of all sizes.

Capital Markets Union (CMU) was a major initiative in the context of a highly fragmented market in Europe, a European Commission's flagship project on financial services, aiming to maximize the benefits of capital markets and non-bank financing for the real economy.

¹ <http://www.imf.org/external/pubs/ft/weo/2014/02/weodata/weoselagr.aspx>

² <http://reports.weforum.org/global-competitiveness-report-2014-2015/>

³ As measured by International Investment Position, <http://ec.europa.eu/eurostat/web/balance-of-payments/data/database>

Therefore, the initiative and subsequent actions that have been undertaken helped to identify new solutions to effectively targeted financial resources available to areas where such resources are needed (especially infrastructure and SMEs) within the EU and to create more opportunities for investors.

2.CMU and the Romanian capital market:

The Romanian capital markets went through a development process, especially during 2010-2013, following the state companies listing and the positive momentum at the international level. For the time being, the Romanian capital markets maintain at a constant level, although the European context was favourable. Even with the raise of the capitalisation that occurred in 2017-2018 because of the new listings, the share of the Romanian capital markets in the national economy is still small.

In particular for Romania, as a small open economy and with a quite unsophisticated stock market, we must be also aware of challenges brought by the CMU for economies such as ours:

- Difficult access of the investors to the financial information, needed for the decisions and sometimes not enough transparency for sharing it;
- Preference for the placements in local financial assets (home vs host with a home preference) ;
- Major differences of the national legal systems (company law, insolvency and bankruptcy laws), especially with respect to the practical application and the supervision/control powers of the national financial authorities;
- Large differences of the governance principles implementations;
- Different fiscal rules;
- Significant differences among Member States for accessing the funds and the financing costs;
- Different rules and practices for the markets functioning (ex. Post-trading infrastructure) and the traded financial instruments (private placements, securitized products, derivatives);

Participation to the CMU of the small countries, with emerging markets, that are not part of the Euro Zone and the Banking Union, could create and deepen the structural vulnerabilities. However, as CMU consists mainly in a set of common legislative acts, indirect effects might be envisage on areas such as the performance and general competitiveness of the companies, and not so much with direct and concrete influence on the economic and financial variables.

A positive effect of the CMU for the Romania would be the reduction of the financial markets fragmentation, the support of the SME funding and the development of the long-term investment projects. The CMU can enhance the investors trust in the economy and diminish the economy financing costs. It can also offer alternative and diverse sources of financing needed especially for small companies and SMEs.

Other possible advantages for Romania are:

- Easier access of the Romanian companies, including SMEs, to foreign capitals, thus a potential for faster growth and continuous competitiveness;
- Decrease of the dependence to the banking financing (at present about 90%) and increase of the economy resilience and shocks absorption;
- Enhancement of the Romanian companies governance and competitiveness (by competing with companies for other countries);
- A higher protection of the financial consumers.

In order to create an international market in Romania, starting from 2014, a large group of capital markets participants, together with the Bucharest Stock Exchange and the

Supervisory Financial Authority had identified 8 barriers for the normal and sustaining development of the Romanian capital market:

- Getting access to the market
- Investors' fiscal compliance
- Not respecting corporate rights of the investors
- Lack of international standards with regard to servicing investors' rights for dividends
- Excessive cost of participation in the market
- Unclear taxation issues related to capital markets transactions
- Primary market
- Bond market

For the purpose of the barriers to be removed the primary and secondary legislation had to be modified. The cumulative efforts of the Romanian officials and the market participants had led to a better capital market environment that provides a better investment protection and a simplified documentation for the access to the market.

The supreme objective of removing the barriers was that of a possible reclassification of the Romanian capital market by MSCI (Morgan Stanley Capital International) from Frontier Market⁴ to Emerging Market. Markets being considered for reclassification are placed on the FTSE⁵ Watch List.

In September 2019, FTSE Russell⁶ announced the reclassification of Romania from Frontier to Secondary Emerging market status effective from September 2020. This status will bring enhanced visibility, new opportunities and an increase in the number of investors, increased capital flows to the local market, and all these could be translated in more competitiveness among European markets.

3.Conclusions:

It is important to have strong, competitive capital markets because they not only reflect the general condition of the economy, but also smoothen and accelerates the process of economic growth. Mature markets bring benefits not only to investors but also to local citizens.

The capital market functions as a link between savers and investors. It plays an important role in mobilising the savings and diverting them in productive investment. In this way, capital market plays a vital role in transferring the financial resources from surplus and wasteful areas to deficit and productive areas, thus increasing the productivity and prosperity of the country. But we have to think also in terms of challenges, because even if more integrated capital markets would increase market connectivity this will induce also new systemic risks that should be addressed.

As Milton Friedman (1980) said "Almost any interesting economic problem has the following characteristic: what is true for the individual is the opposite of what is true for all together.", so this means that future actions should not have in mind only methods designed to develop more sophisticated financial products, but also methods for financing projects that sustain the real economy, the real life of Europe citizens and reaching Europe 2020 objectives.

⁴ Romania has been classified as a Frontier market since 2008

⁵ In September 2016, Romania was added to the Watch List for possible reclassification from Frontier to Secondary Emerging market status

⁶https://content.ftserussell.com/sites/default/files/press-archive/FTSE%20Russell%20Annual%20Country%20Classification%20Sept%202019%20FINAL%20%28002%29.pdf?_ga=2.136364985.862089005.1569551469-1996775559.1569551469

References:

Bucharest Stock Exchange report, 2014, Creating an international capital market in Romania, available:<http://www.bvb.ro/juridic/files/Raport%20bvb%20web.pdf>

Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the regions Action Plan on building a Capital Markets Union - COM/2015/0468 final

European Commission, 2015, Capital Markets Union. Brussels: European Commission
-European Commission, 2015, "Green paper. Building a Capital Markets Union", SWD (2015) 13 final

European Commission, 2015, "Commission Staff Working Document. Initial reflections on the obstacles to the development of deep and integrated EU capital markets". SWD (2015) 13

MACROECONOMIC VARIABLES IN KEYNES CROSS

Cristina-Dana DRIHA, Aniko KUNTZ

Doctoral School of Economic Sciences, Faculty of Economic Sciences, University of Oradea, Romania

cristina.driha@gmail.com

ancsaktz@gmail.com

Abstract: *The macroeconomic variables allow an evaluation of the main imbalances at macroeconomic level, the monitoring of the changes that took place in the economy and the laying down of certain adequate policies with the purpose of achieving the future goals. Certain macroeconomic relations are set between these variables, that can be illustrated with the help of certain equations and inequalities, and the interdependency between them can be shown with some. J.M. Keynes theory Keynes is based on a descriptive economical and mathematical pattern that comprises some endogenous (determined) variables, global indicators that characterize the level of economic capacity on the national economy scale and exogenous (decisive) variables, rates regarding the behaviour of economic operators. In the Keynesian approach each component of the income is "explained" through other variables. From the circular flux in an economy we notice that we deal with a complex system, with inter-conditional links between variables.*

Keywords: Keynesian cross, macroeconomic variables, government expenditure, Keynes multiplier, public budget, public expenses

JEL classification: E12; E13; H50.

1. Introduction

The study that is subject to this article aims at performing a theoretical analysis regarding the connection between the macroeconomic variables from the Keynesian cross. The methodology of the scientific research of this paper was realized through a review of some approaches, ideas and opinions of government spends as a variable of the Keynesian cross diagram. The Keynesian cross diagram first appears as an expression of the main ideas from the Keynes General Theory. It first appeared as a central component of the macroeconomic theory, as presented by Samuelson. From the Keynesian perspective, the economical politics were supposed to prevent the entry of the economy in a recession spiral or to stabilize and re-establish to optimal state the economy in crisis. The remedies can be both fiscal and monetary policies.

2. Literature review

As far as the Keynesian ideas, the latter have resulted in numerous debates between economists in the course of time. Hence the level of knowledge of the research field is emphasized by a large volume of researches in this field. From the publication of the General Theory, several article and books have tried to provide interpretations for Keynes' ideas. For example, Alvin H. Hansen in the book *A Guide to Keynes* (1953, p.10) says that "There are a few who would deny as of now, seventeen years later, that the book has had a greater impact on economic analysis and policy". Also Abba P. Lerner (1951, p.265) has suggested another method of presentation designed to show how the functions determine the rate of interest. The Keynesian revolution has marked the final ending of the "laissez-faire" ideology and the promotion of the state's intervention in economy. The state can

interfere in the economy through public expenditure, taxing, but also through the monetary measures. The old pattern of incomes and taxes (IS-LM diagram) drawn up by Hicks and Hansen (1937) represents the essence of the Keynesian economics. Alvin H. Hansen (1953) has included later in the pattern also the workforce market; this has resulted in a pattern that analyses simultaneously the three markets: the goods and services market, the monetary market and the workforce market.

3. The relation between public budget and Keynesian multiplier

In General Theory, Keynes claims that the total income of an economy was for the short term, determined mainly by the wish to spend for households, companies and the government. The bigger the desire to spend, the larger the volume of sold goods and services, and the higher the sales volumes, thus the increased production, which leads to more people being employed. The economic perspective on which the current economic interventionism is based starts from what we call Keynes "multipliers". The formulas below were presented by the author Boloş M. (2007) in the paper Note de Curs.

$$Y = C + I + G \quad \text{where } Y = \text{aggregate income}$$

C = aggregate consumption
I = investments
G = Government expenses

This formula is also called the Keynesian cross equation (the closed economy pattern). From this Keynesian formula it was established that a variable depends directly on the income, thus become an endogenous variable: consumption. The other options (I, G) are independent of the income, thus being considered exogenous variables.

$$C = C_0 + c * Y \quad C_0 - \text{autonomous consumption (bread, water etc.)}$$

C - the marginal disposition for consumption

$$Y = C_0 + C * Y + I + G \Rightarrow Y = \left(\frac{1}{1-c}\right) (C_0 + I + G). \quad \text{The term } \frac{1}{1-c} \text{ is called Keynesian multiplier.}$$

It is noticed that between the cumulated income Y and the government expenses G there is the following situation: $\Delta Y = \left(\frac{1}{1-c}\right) * \Delta G$. To sum up, it can be said that several government expenses ΔG will include a change in structure (dynamic) for the cumulated incomes, directly to the same extent as the Keynesian multiplier $\frac{1}{1-c}$.

4. The relationship between Government expenditure (G) - balance incomes

The static balance at national economy level means that the income covers the total demand, Y (total offer) = D (total demand): $Y = C + I + G$.

If the national governments grant transfers from the state to the households and the companies, and the consumptions is expressed according to the autonomous consumption and the consumption based on the available income (YD) we will have as follows:

$$Y = C_0 + C_y * YD + I + G \quad \text{but } YD = Y + Tr - T \Rightarrow Y = C_0 + C_y (Y + Tr - T) + I + G$$

$$\text{But } T = t_y * Y \text{ then } Y = C_0 + C_y (Y - t_y * Y) + C_y * Tr + I + Y \text{ or}$$

$$Y = C_0 + C_y * Y(1 - t_y) + C_y * Tr + I + G \Rightarrow Y(1 - C_y(1 - t_y)) = C_0 + C_y * Tr + I + G$$

$$Y = \frac{C_0 + C_y * Tr + I + G}{1 - C_y(1 - t_y)} \quad \text{- the expression of the balancing income}$$

The above formula shows us that the balance within a closed national economy is influenced by government expenditure proportionally with a coefficient:

$$KG = \frac{1}{1 - C_y(1 - t_y)}$$

Example 1: The following data is known at national economy level: autonomous consumption 150 um, the taxation marginal rate: 20%, marginal predisposition towards

consumption 0.8, economy investments 600 um, the value of government expenses 350 um, the value of transfers from the state to the households and companies was of 70 um. What is the value of the balance income?

$$Y = \frac{C_0 + C_y * Tr + I + G}{1 - C_y(1 - t_y)} = \frac{150 + 0,8 * 70 + 600 + 350}{1 - 0,8(1 - 0,2)} = 3202,12 \text{ um}$$

4.1. The influence of the government amendments of the expenses (G) on the balance incomes

We know that:

$$Y = \frac{C_0 + C_y * Tr + I + G}{1 - C_y(1 - t_y)}$$

$$\text{then } \frac{dy^*}{dG} = \frac{d\left(\frac{C_0 + C_y * Tr + I + G}{1 - C_y(1 - t_y)}\right)}{dG} \Rightarrow \frac{dy^*}{dG} = \frac{1}{1 - C_y(1 - t_y)} \Rightarrow dy^* = \frac{1}{1 - C_y(1 - t_y)} * dG$$

The balance income under the new conditions, determined by the amendment of the government expenditure will be:

$$y^1 = y^* + dy^* \text{ sau } y^1 = y^* + \frac{1}{1 - C_y(1 - t_y)} * dG$$

Example 2: Starting from the data in example no.1 it is necessary to establish the value of the balance income, when there is an amendment of the government expenditure by 30 um.

$$dy^* = \frac{1}{1 - 0,8(1 - 0,2)} * 30 \text{ um} = 83,1 \text{ um}$$

$$y^1 = 3202,12 \text{ um} + 83,1 \text{ um} = 3285,22 \text{ um}$$

4.2. The influence of the amendment of the government expenditure on the result of the budgetary equation (budgetary surplus/deficit)

The equation of the state budget is:

$$DB = G + Tr - T \text{ but } T = t_y * Y, \text{ we get } DB = G + Tr - t_y * Y,$$

We differentiate the above equation and we get

$$dDB = dG - t_y * dy \text{ We divide by DB and we get } \frac{dDB}{dG} = 1 - t_y * \frac{dy}{dG}$$

$$\frac{dDB}{dG} = 1 - t_y * \frac{1}{1 - C_y(1 - t_y)} \Rightarrow dDB = \left[1 - t_y * \frac{1}{1 - C_y(1 - t_y)} \right] * dG$$

Example 3: Knowing that an amendment is made to the government expenditure dG by 30 um, under the condition of the hypotheses from example 1 it is necessary to establish if at the level of budgetary economy a budgetary surplus/deficit was created.

$$dDB = \left[1 - 0,2 * \frac{1}{1 - 0,8(1 - 0,2)} \right] * 30 \text{ um} = 0,446 * 30 = 13,38 \text{ um}$$

Conclusion: Subsequently to the increase of the government expenditure by 30 um at national economy level, a budgetary deficit of 13.38 um was created.

5. The definition of the volume of government expenditure to ensure the balance income

We know that: $DB = 0$ Meaning that $G + Tr - T = G + Tr - t_y * Y = 0$ or

$$G = t_y * Y - Tr \text{ The balance incomes will be established as follows: } Y = C + I + G$$

We know that: $C = C_0 + C_y * YD$, at the same time $YD = Y + Tr - T$ but

$YD = Y(1 - t_y) + Tr$. We replace the YD expression in the consumption formula and we get $YD = Y(1 - t_y) + Tr$ or $C = C_0 + C_y * [Y(1 - t_y) + Tr]$ or

$$Y = C_0 + C_y * Y(1 - t_y) + C_y * Tr + I + G \Rightarrow Y(1 - C_y(1 - t_y)) = C_0 + C_y * Tr + I + G$$

We replace in the above equation the expression $G = t_y * Y - Tr$ and we get

$$Y(1 - C_y(1 - t_y)) - t_y * Y = C_o + C_y * Tr + I + G$$

$$Y_{(DB=0)}^* = \frac{C_o + (C_y - 1) * Tr + I}{1 - C_y(1 - t_y) - t_y} \text{ That represents the value of the balance income for } DB=0$$

We know that: $\frac{dy^*}{dG} = \frac{1}{1 - C_y(1 - t_y)}$ That results in $dy = \frac{1}{1 - C_y(1 - t_y)} * dG$ or

$$dG = \frac{dy}{\frac{1}{1 - C_y(1 - t_y)}} \Rightarrow dy = Y_{(DB=0)}^* - Y^* \text{ balance. That is } dG = \frac{Y_{(DB=0)}^* - Y^*}{\frac{1}{1 - C_y(1 - t_y)}}$$

Example 4: Starting from the hypotheses of example 1 and knowing the value of the balance income it is $Y^* = 3202.12$ um it is necessary to establish the value of government expenditure for which $DB=0$.

Phase I – we establish the value of the balance income for which $Y^*(DB=0)$

$$Y_{(DB=0)}^* = \frac{150 + 70(0,8 - 1) + 600}{1 - 0,8(1 - 0,2) - 0,2} = \frac{736}{0,16} = 4600 \text{ um}$$

$$y = Y_{(DB=0)}^* - Y^* = 4600 - 3202,12 = 1397 \text{ um}$$

Phase II – we establish the value of government expenditure for which $DB=0$

$$dG = \frac{1397}{\frac{1}{1 - 0,8(1 - 0,2)}} = \frac{1397}{2,77} = 504,65 \text{ um}$$

$$G_{(DB=0)}^* = 504,65 + 350 = 854,65 \text{ um} \Rightarrow G_{(DB=0)}^* = 854,65 \text{ um}$$

Conclusion: the value of the budgetary expenses that ensure a balanced budget is of 854.65 um.

6. Conclusion

The state budget, as economic variable, has an impact on the economic growth rhythms at national level and/or the consequences on the consumptions both at household level, and company level. For instance, a public investment can have the effect of a multiplies in the economy through the number of workplaces that are governed or through the quantity of raw materials that are necessary for a public investment. Also, the payroll expenses that are financed from the state budget, but also those from social insurance are an essential component in influencing the cumulated consumption.

References

- Abba, L. (1953) *On the Marginal Product of Capital and the Marginal Efficiency of Investment*, Journal of Political Economy vol.16;
- Alcian, A. (1955), *The Rate of Interest, Fisher's Rate of Return Over Cost and Keynes's Internal Rate of Return*, American Economic Review;
- Asimakopulos, A. (1978-9), *The Determination of Investment in Keynes's Model*, Canadian Journal of Economics;
- Badea, M. and Balaceanu, C. (2014) *O istorie a gandirii economice Editia a II-a revazuta si adaugita*, Editura Pro Universitaria;
- Boloş, M. (2007) *Bugetul si Trezoreria Publică*. Note de curs; Editura Universităţii din Oradea;
- Isaic-Maniu, Al., Mitruş, C-tin, Voineagu, V. (1995). *Macroeconomie şi analiză macroeconomică*, Editura „Constantin Brâncoveanu”, Rm. Vâlcea;
- Keynes, J. M. (1970), *Teoria generală a folosirii mâinii de lucru, a dobânzii şi a banilor*, Bucureşti, Ed. Ştiinţifică;
- Pierangelo, G., (1971) *Notes on Consumption, Investment and Effective Demand I & II*, Cambridge Journal of Economics.

ECONOMIC AND SOCIAL IMPLICATIONS OF TAX EVASION

Ioan Feher

Doctoral School of Economic Sciences, Faculty of Economic Sciences, University of Oradea, Romania

nelufeher@gmail.com

Abstract: *The term underground economy in the domestic concept has negative connotations even though it is a relatively generic one, which includes a wide area of coverage, from the production for self-consumption, to illegal activities (drugs, prostitution, etc.) and to the legal activities hidden from taxation. We will refer in the following to tax fraud, a component of tax evasion and its implications in the economic and social life of the community. In fact, tax fraud can be viewed from two perspectives: the legal one (the willful violation of some regulations) and the economic-social one. We aim at a brief analysis from the economic and social perspective of this phenomenon, using as a research method the analysis of documents, resulting in establishing the main economic and social effects of tax evasion.*

Keywords: underground economy, tax evasion, tax fraud

JEL classification: H26

1. Introduction

Tax evasion (in the generic meaning, representing tax fraud) is an economic-social phenomenon relevant to the national economy of any state, which all the countries of the European Union are facing in different proportions. Given the complex causes and their proportions, whatever the measures of combating, it is not possible to claim that, in terms of the obtained results, it is considered as desirable to achieve the eradication of this phenomenon. It is desirable to limit this phenomenon so that it has limited implications within the economy of a country. Within the specialized literature, the definition of the concept of tax evasion, the forms of manifestation and the socio-economic implications has presented polemics over time, without establishing exact terms or clear methods of quantification. As yet, no direct correlation between a certain level of tax evasion has been revealed that is likely to affect the state's economic and social policies.

Of the most common approaches, mentioned by Achim and Borlea (Economic-financial crime, 2019), regarding the definition of the evasion phenomenon, we reiterate: "Tax evasion is an illegal way to pay less taxes and duties than it should" (The Dictionary Oxford, Cambridge, 2017); "Tax evasion is the way in which economic subjects respond to fiscal pressure, when it exceeds a certain threshold considered necessary for starting, maintaining and developing a business or any gainful activity, again and in relation to their current wealth or income" (Dinga, 2008).

The measurement of tax fraud and socio-economic implications can only be done by approximate methods, due to the complexity of the fiscal domain. With this approach we aim to clarify possible correlations between the level of tax fraud and the effects on the economic and social level, reflected in the local media by applying the method of document analysis. Applying this method to specialized publications ("Revista Capital" and "Ziarul Financiar"), in the period 2018-2019, results the existence of a direct correlation between the size of the tax fraud and the negative economic and social implications in the national economy.

Top-of-the-line notes surprised by the specialized media reveal that Romania is still facing large tax fraud, which makes this phenomenon constantly at values of over 25% of GDP

(Botea, 2019). In this chapter, the most relevant indicator remains the VAT gap (at values around 40% of GDP), which makes Romania to be at the end of the ranking of European countries (Oancea, Mediafax, 2019). In order to balance the budget and implicitly to reduce the deficit, the authorities are forced to adapt to the state of affairs, often being forced to restrict budgetary allocations, with direct implications both economically and socially (Vioreanu, 2019).

2. Economic and social effects of tax fraud

When we talk about tax fraud, we will always refer to the illegal / illicit tax evasion, without taking into account the legal component, that is, the fiscal optimization, respectively "that form of interpretation of the tax legislation that, without being fraudulent, leads to a reduction of the tax base, and therefore to pay lower taxes" (Bodu and Bodu, 2016).

According to some classifications after Achim and Borlea (Economic-financial crime, 2019), tax evasion consists in hiding the taxable object or undervaluing the amount of taxable matter, and occurs when the taxpayers fraudulently violate the fiscal law and materialize in economic acts such as: false accounting records; manipulations between affiliated companies; unlawful recording of expenses; forgery / destruction of financial and accounting documents; organizing double accounting records etc.

The tax fraud is classified (Amarita, 2017) by the type of tax or tax affected, respectively the one that influences it: the profit tax, the value added tax, the tax on wages and excise duties. It has a direct action on the amount of the nominated taxes, which it directly and substantially reduces them, with the direct purpose of avoiding them. The financial funds thus obtained feed the shadow economy.

In the specialty literature, tax evasion is treated as a complex phenomenon that manifests itself as a result of the interaction between the taxpayer and the state, through the specific legislation imposed. This phenomenon has negative effects for both the state and taxpayers. The state is deprived of part of the revenues it should collect in order to fulfill its tasks. The negative effects for taxpayers are materialized in the fact that the total of the taxes is distributed on a lower income table. Tax fraud, regardless of the size achieved, has negative effects on the economy and society (Fritzen, S.A., Serritzlew, S., Svendsen, G.T., 2014; Lippert, O., Walker, M., 1997).

At the financial level, the budget balance is affected by the generation of budget deficits and additional costs related to public loans. The record of some chronic deficits represents an additional factor of pressure on the budget, practically realizing a limitation of the fiscal policies available to the governments. For example, the external current account deficit increased by 19% in the first nine months of 2019 compared to the same period last year and reached 8,1 billion euros (Botea, 2019).

From an economic point of view, tax fraud distorts competition, with negative consequences for prices formation. The perpetuation of this phenomenon over a longer period makes the honest economic actors of the market unable to compete loyally with those engaged in evasion activities, being practically determined to disappear from the market or to align themselves with the evasionists (Bellu, 2018).

From a social point of view, the tax fraud changes the redistribution of income, creating and widening inequalities between taxpayers, being favored those actively involved, or those financially affected by certain statutory social benefits. (Ungureanu, 2019).

Significant is the fact that in 2019 the VAT gap in Romania is about 38% of GDP, being followed in the European ranking of Greece (33.6%) and Lithuania (25.3%). At the opposite end are Cyprus (0.6%), Luxembourg (0.7%) and Sweden (1.5%). Relevant is the solution to reduce (from 24% in 2015 to 14% in 2017) VAT gap adopted by Poland, by implementing, starting with 2016, the Standard Audit File for Tax (SAF-T). Thus, the reporting of economic agents has been simplified and the capacity of processing and analyzing the information reported by the tax administration has increased. The benefits

are multiple: the tax compliance burden for taxpayers decreases, taxes are reimbursed faster, the administration detects irregularities or risk areas earlier (Anghel 2019, cited by Oancea, 2019).

3. Conclusions, limits and research directions

A general and theoretical approach to the phenomenon of tax fraud shows the existence of a close inverse proportional correlation between the scale of the phenomenon, related to a territorial area and a temporal landmark, and respectively the degree of economic development. The greater the share of the underground economy in a country's Gross Domestic Product, the more funds that this budget will be deprived of, and the more money that would bypass the tax system, respectively an unfair redistribution of funds to society. In fact, we managed to establish, using the research method - document analysis, a direct and relevant correlation between the presence of the evasion phenomenon in an economy and the level of budget collection. Taxes directly affected by this phenomenon (value added tax, profit tax, wages tax and excise duties) are essential sources for the formation of any budget, any impact of which is reflected directly in the degree of collection.

Research has been carried out over a short time interval (two years), which may lead to a greater degree of subjectivism on the result, a complex evaluation over a minimum of ten years, by applying several research methods, in a combined way, being to be desired. This fact could lead to an increase in the accuracy of the result, respectively the confirmation of the trends reported in the present research.

Of course, this presentation is based on a theoretical approach, as a starting point for further in-depth studies on the phenomenon of tax fraud, seen in the light of the complex effects generated. By combining the research methods and increasing the analyzed intervals, it can be highlighted including the existence of other complex correlations between the determining factors underlying this phenomenon with very different forms of manifestation.

References

- Achim, M.V., Borlea, N.S. (2019), *Criminalitatea economico-financiară*;
- Amarîța, A. (2017), *Evaziunea fiscală în România*;
- Bodu, S. Bodu, C. (2016), *Infrațiuni economice. Comentarii și explicații. Adnotări cu jurisprudență*;
- Botea, R., "Despre economia subterană sau cum dispar anual 200 de miliarde de lei din PIB-ul României". *Ziarul Financiar*, september 2019, available at: <https://www.zf.ro/bancisi-asigurari/despre-economia-subterana-sau-cum-dispar-anual-200-de-miliarde-de-lei-din-pib-ul-romaniei-18416643>, [25.10.2019];
- Botea, R., "Poziția externă a României se deteriorează". *Ziarul Financiar*, november 2019, available at: <https://www.zf.ro/eveniment/pozitia-externa-romaniei-deterioreaza-deficitul-cont-curent-ajuns-8-1-mld-euro-dupa-luni-2019-plus-19-investitiile-straine-s-au-redus-iar-datoria-externa-creste-108-mld-euro-economia-exces-cerere-18580564>, [26.11.2019];
- Botea, R., "Măsurile UE de combatere a evaziunii fiscale la TVA: Taxarea inversă generalizată". *Ziarul Financiar*, october 2018, available at: <https://www.zf.ro/eveniment/masurile-ue-de-combatere-a-evaziunii-fiscale-la-tva-taxarea-inversa-generalizata-17541577>, [18.10.2019];
- Bellu, C., "Decizia Guvernului de a amâna introducerea caselor de marcat cu jurnal electronic încurajează evaziunea". *Ziarul Financiar*, june 2018, available at: <https://www.zf.ro/companii/retail-agrobusiness/decizia-guvernului-de-a-amana-introducerea-caselor-de-marcate-cu-jurnal-electronic-incurajeaza-evaziunea-17242203>, [14.10.2019];
- Dinga, E. (2008), *Considerații teoretice privind evaziunea și fraudă fiscală*, *Studii Financiare*;

Fritzen, S.A., Serritzlew, S., Svendsen, G.T. (2014). Corruption, Trust and their Public Sector Consequences: Introduction to the Special Edition, *Journal of Public Economics*;

Gliga, Constantin Ioan (2007), *Evaziunea fiscală. Reglementare. Doctrină. Jurisprudență*;

Lippert, O., Walker, M. (eds) (1997). *The Underground Economy: Global Evidences of its Size and Impact*, Vancouver, BC: Frazer Institute;

Oxford Dictionary, Cambridge (2017), *en.oxforddictionaries.com*;

Oancea, D., Mediafax, "România a înregistrat în 2017 un deficit de încasare a TVA de 36%, cel mai mare din UE. Daniel Anghel, PwC: Digitalizarea administrației fiscale, varianta optimă pentru îmbunătățirea colectării". *Ziarul Financiar*, september 2019, available at: <https://www.zf.ro/banci-si-asigurari/romania-a-inregistrat-in-2017-un-deficit-de-incasare-a-tva-de-36-cel-mai-mare-din-ue-daniel-anghel-pwc-digitalizarea-administratiei-fiscale-varianta-optima-pentru-imbunatatirea-colectarii-18367587>, [21.10.2019];

Sîngeorzan, Daciana-Elena (2011), *Taxe și impozite. Dobânzi și penalități în materie fiscală. Practică judiciară*;

Ungureanu, B., "Nou sistem de luptă la nivel european împotriva contrabandei și evaziunii. România, obligată să-l implementeze". *Revista Capital*, august 2019, available at: <https://www.capital.ro/nou-sistem-de-lupta-la-nivel-european-impotriva-contrabandei-si-evaziunii-romania-obligata-sa-l-implementeze.html>, [23.10.2019];

Vioreanu, V., "Guvernul se pregătește de tăieri drastice. Au anunțat ce ne așteaptă". *Revista Capital*, july 2019, available at: <https://www.capital.ro/quvernul-se-pregateste-de-taieri-drastice-au-anuntat-ce-ne-asteapta.html>, [25.10.2019].

CONCEPTUAL ASPECTS THAT LIE AT THE BASIS OF COMPANY SOCIAL RESPONSIBILITY

Roxana Florina Glăvan

PhD. Student, Faculty of Economics and Business Administration,

West University of Timișoara

roxana.glavan37@yahoo.com

Abstract: *This paper presents the issues linked to non-financial reporting, focusing on the entities' sustainability reports. Through corporative social responsibility, companies reaffirm their principles and values, in their processes and operations as well as their interaction with other entities. CSR is voluntary, in its nature, and refers to the activities of companies that are not legally imposed. Social and environment responsibilities of corporations can change the expectations of current society. There are countless companies that are profitable from a financial standpoint, but that carry out different activities, that affect its employers and the community. Corporate responsibility addresses several essential aspects for companies, including the need to define the level of responsibility towards those from the public sector, to determine the level of corporate participation in satisfying market demand and to decide the future moment up until it must anticipate and plan the consequences of their activity, especially if natural resources are used in the process of production.*

Keywords: corporate social responsibility; theories of social responsibility; financial performance

JEL classification: M14; M40; M49

1. Introduction

The European Commission (2001, p.8) defines corporate social responsibility as a concept through which companies voluntarily integrate the social and environment interests in their economic operations and their interaction with interested parties. Activities that are regarded as socially responsible include charitable contributions to national or local organizations such as fund raising, donations and gifts or helping disadvantaged communities, restoration of abandoned land and creation of new jobs.

The importance of company social responsibility is increasing and this fact is proven by the significant increase in the availability of reports on social and ecological conduct.

2. Literature review

Corporate social responsibility presumes that, besides the goal of maximizing company profit, a company plays an important role in solving social issues (Swanson, 1995). Supporters of this theory consider that such a restricted vision can lead to management ignoring other stakeholders including employees, suppliers, clients and society as a whole, and that, sometimes, the needs of these interested parts should surpass the goals of the company owners, when decisions must be taken, even if those decisions reduce the actual cash flow of the company. (Clarkson, 1995; Donaldson and Preston, 1995; Freeman, 1998; Mitchell, Agle and Wood, 1997; Wood and Jones, 1995). From the standpoint of Moon (2004, p.156), the fundamental concept of CSR is that it "reflects the imperatives and social consequences of business success and that this responsibility belongs to the company and the manifestation and direction of responsibility remains at the discretion of

the corporation". This definition implies that a company is directly responsible in solving society's issues.

Davis (2005) considers the well-known opinion according to which the main interest of the company lies in creating and maximizing profit as unrealistic. From his standpoint, corporations should have other responsibilities besides increasing profit, because they enjoy social and economic power in society.

3. Theories of corporate social responsibility

Due to a multitude of theories and approaches to the term of corporate social responsibility, the discussion in the current paper is based on a comprehensive analysis realized by Secchi (2007) and is compared to an analysis realized by Garriga and Mele (2004). Secchi developed a group of theories based on two criteria, social and corporative, and these are: the utilitarian theories, the managerial theories and the relational theories.

The conclusions extracted from the three previously mentioned theories are: the utilitarian theory offers a simplified view of functionalism and social costs, the managerial theory focuses on organization and can be measured, and the relational theory is based on value as well as the interdependence between corporation and social environment.

Garriga and Mele (2004, p51), on the other hand approach the term of corporative social responsibility through the lens of four theories: the instrumental, political, inclusive and ethical theories.

The instrumental theory is based on achieving economic objectives through social activities, the political theory is centered on the idea of responsibly using the power of a company in politics, the inclusive theory focuses on the mixing of management, public responsibility, stakeholder management and corporate social performance issues, and the ethics theory emphasizes the strategies used to help the community.

The links between the social responsibility theories are easier to follow in Table 1, where the utilitarian, management and relational theories are presented, while in Table 2 the similar theories of Garriga and Mele are presented.

Table 1.Utilitarian, managerial and relational theories of CSR

Utilitarian theory	Managerial theory	Relational theory
Theories based on social cost Functionalism	Corporate social performance Social responsibility, audit and reporting Social responsibility for multinationals	Business and community – An approach through the stakeholders' lens Corporate global citizenship Theory of the social contract

Source: Secchi (2007:350)

Table 2.CSR theories and appropriate approaches

Types of theories	Approach	Description
<i>Instrumental theory</i> Centered on achieving economic objectives through social activities	Maximizing the wealth of shareholders Strategies of obtaining a competitive advantage Cause orientated	Long term wealth maximization Social investments in a competitive context Company optics on natural resources and their dynamic abilities

	marketing	Humanitarian activities recognized as marketing strategies
<u>Political theory</u> Centered on responsible use of power in politics	Political constitutionalism Interrogative social contracts Corporate citizenship	Social responsibility in business appears as a result of the company's social power Implies the existence of a social contract between the business and the community The company is considered a citizen with certain implications in the social environment
<u>Inclusive theory</u>	Management issues Public responsibility Stakeholder management Social responsibility performance	The corporation's answer to existing social and political issues Social performance is measured with the help of existing legal and political procedures Balance between the company's and stakeholder's interests The aspiration towards legitimacy in order to offer an adequate response to the emerging social issues
<u>Ethical theory</u> Centered on what must be done in order to help the community	The theory of interested parts Universal rights Sustainable development Common good	Takes into consideration the financial obligations of the company towards interested parts Is based on human rights, work conditions and respect towards the environment Aiming towards human development taking into account the interests of future generations The focus towards the common good of society

Source: Garriga and Mele (2004: 63-64).

4. Conclusions

Surprisingly, empirical research has indicated positive, neutral and negative impact of corporate social responsibility over financial performance. Corporate Social Responsibility (CSR) is one of the most important and pressing issues confronting business executives these days. Despite widespread attention, there is little agreement about what constitutes CSR, or why companies should pursue social objectives, or what effects this has on firm performance. The dynamism of the CSR concept highlights the need for new approaches and research designs. It necessitates longitudinal research designs to evaluate the progress of firms at various points in time. Within-industry studies would be useful for controlling the influence of context-specific norms and moderating factors. This would also enable researchers to deal with the issue of test-retest reliability.

References

- Clarkson, M. B. E. (1995) A Stakeholder Framework for Analysing and Evaluating Corporate Social Performance, *Academy of Management Review*, Vol. 20 No. 1, pp. 92-117.
- Davis, K. (2005), The Case For and Against Business Assumption of Social Responsibilities, *Academy of Management Journal*, Vol.16, No.2, pp. 312-322.
- Donaldson, T. and Preston, L. E. (1995) The Stakeholder Theory of the Corporation: Concepts, Evidence, and Implications, *Academy of Management Review*, Vol. 20 No. 1, pp. 65-91.
- European Commission, Promoting a European framework for corporate social responsibility – Green Paper, Office for Official Publications of the European Communities, Luxembourg, 2001, p.8.
- Freeman, R. E. (1998), A stakeholder theory of the modern corporation, in Pincus, L. B. (Ed.), *Perspectives in business ethics*, McGraw-Hill, Singapore, pp. 171-181.
- Garriga, E. and Mele, D. (2004) Corporate Social Responsibility Theories: Mapping and Territory. *Journal of Business Ethics*, 53, pp. 51-74.
- Moon, J. (2004). 'Government as a driver of corporate social responsibility'. University of Nottingham, International Centre for Corporate Social Responsibility, Research paper Series. No. 20, p.156.
- Mitchell, R. K., Agle, B. R. and Wood, D. J. (1997). Towards a Theory of Stakeholder Identification and Salience: Defining the Principle of Who and What Really Counts, *Academy of Management Review*, 22(4), pp.853-886.
- Secchi, D. (2007). Utilitarian, Managerial and Relational Theories of Corporate Social Responsibility. *International Journal of Management Reviews*, 9, 4, pp. 340-350.
- 10.
- Swanson, D. L. (1995), Addressing a Theoretical Problem by Reorienting the Corporate Social Performance Model, *Academy of Management Review*, Vol. 20 No. 1, pp. 43-64.
- Wood, D. J. and Jones, R. E. (1995), Stakeholder Mismatching: A Theoretical Problem in Empirical Research on Corporate Social Performance, *The International Journal of Organizational Analysis*, Vol. 3 No. 3, pp. 229-267.

EQUITY POLICY AND THE VALUE OF THE ECONOMICAL ENTITY

Roxana Florina Glăvan

*PhD Student, Faculty of Economics and Business Administration,
West University of Timișoara*

roxana.glavan37@yahoo.com

Abstract: *Financial management of an entity implies a certain structure of the capital, a policy of its indebtedness, an adopted and implemented equity policy.*

The equity policy must permanently impose an efficient way of sharing and utilization of the obtained net profit, allocating it in order to finance new investments or compensate investors, in certain quantities and periods. The goal of an optimal equity politics must be the constant pursuit of options identification in order to register the largest possible profit and maximizing the value of the company. This optimal equity policy is not generally valid for any commercial entity but is influenced by diverse factors and circumstances. The objective of our scientific approach is to try and point out, which the influence factors for the equity policy are, the mode in which they operate in this sense, and especially identifying a policy as close as possible to the optimal one, in regards to the equities problem.

Keywords: equities; the value of the company; net profit; shareholders

JEL classification: G11; G18; L88

1. Introduction

Regardless of the business objective, the general economic situation, of the magnitude, experience or notoriety of a joint stock company, each and every society from this category has its own owners, the so called "shareholders of the company", shareholders that invest capital in the respective company with the ulterior goal of a larger return on investment through equities, after a period of time.

Whenever we talk about shareholders, we talk about equities and about when, how and in what measure should these be distributed.

In time, many authors have tried to analyze and argue why or why not a company should remunerate its owners in this way, how regular or in what quantity and, of course, if certain aspects regarding this issue should be taken into consideration, or if the equity policy of a society can remain unchanged regardless of situation and if it affects or not the value of a company, if yes, in what way.

The pro and con arguments of equity payment did not take long to appear, of course, each of the two different points of view being argued by their proposers. There were authors that subscribed to neither of these categories, emphasizing a lack in relevance of this policy to the value of a company.

Exactly because this controversial subject was and still is one of actuality, one which every joint stock company has to confront over the whole duration of its existence, a subject that presents interest for both shareholders and creditors, but even to its employees and other interest groups that come into contact with the entity, this was the motivation that influenced choosing and presenting this theme.

2. Literature review

In dedicated literature (Ioan E. Nistor, 2002, p.21), financial management of the company is defined as the entirety of decisions and operations linked to the formation and utilization

of necessary capital, obtaining the results of the exercise, the utilization and distribution of profits including the services and personnel it was realized with.

Frank Murray and Goyal Vidhan have said, back in 2003, that the financial policy of the company represents equilibrium between risk and profitability. A component of the financial policy of commercial societies is the equity policy.

Georgeta Vintila (2010) is of the opinion that, the equity policy is formed from the totality of decisions and techniques used to determine the level of equities that can be distributed to shareholders. The distribution of equities reduces the company's liquidity but ensures revenue for shareholders leading to an increase in the efficiency of the initial financial placement.

Richard A. Brealy, Stewart C. Myers and Franklin Allen (2008) affirm that, at the establishment of a new commercial entity, its shares can be held by a small group of investors as well as the managers and a few supporters, a case in which the stock is not transacted on the stock market and the control of the company is kept "close". Once it develops, new stock will be issued in order to increase capital and it will be transacted on a large scale.

Of course, the possibility of equity distribution, assumes the availability to the company of a sufficient profit, so that the equity distribution does not affect the financial liquidities of the company and not endanger creditors whose claims will be due.

As Peter Moles, Robert Parrino and David Kidwell (2011) point out, the equities practically reduce the capital invested by shareholders, returning to them a part of that specific investment, a value that was already theirs.

Equities directly influence the capacity of self-financing of the company. Their diminishment, simultaneous with an increase in amortization, provisions and reserves leads to variation in the self-financing capability of the company, in the sense of increasing it (Jean-Guy Degos and Stephane Griffiths, 2011).

The equity policy of the company is adopted taking into consideration certain influence factors, that in the opinion of I. E. Nistor (2002, p. 267-269), are: the financial situation of the company, shareholders' preferences, investors' psychology (the investor can sell his shares in order to procure the liquidities he needs when he is dissatisfied with the received dividends) and taxation.

In regards to the financial situation of the company, the factors that influence equity policy (Ioan Talpos & all, 2001) are: the degree of indebtedness of the company; the general rate and immediate rate of liquidity; the financial and economic feasibility rate; the cost-effectiveness of income, total assets or consumed resources; the cost of new issue of common shares; financing future socio-economic actions, from the company's own capital, from borrowed resources or by combining the two.

3. Opinions regarding equity policy

Victor Dragota (2003) presents three opinions in regards to equity policy, from a logical standpoint, these being: the neutrality concept of the equity policy, in a perfect market, the necessity of reinvesting profits concept and the concept according to which distributing dividends is necessary.

The neutrality theory of the equity policy over the value of the company, which belongs to Merton Miller and Franco Modigliani (1961), argues that in the conditions of a perfect market, "the shareholders should be indifferent between cashing dividends at the present moment and reinvesting profits". The argument brought by the two in upholding this theory is that, the reinvested profit will return to the shareholders because this profit will be invested in only profitable projects, that themselves will bring in profit. This theory, based on an ideal financial environment is also known as the irrelevant equity theory; it argues that the equity policy does not affect the price of shares and the value of the company is given only by the feasibility of the business and risk. Exactly because

reality does not include a definite economic environment, Miller and Modigliani's concept remains theoretical.

The residual theory of equity entails selecting the most feasible investment projects and the most inexpensive financing sources for them. The value of the company is influenced by the dividend per share and if the rate of feasibility for reinvesting funds is greater than the one requested by shareholders for the associated risk of the concerned projects, then the investment will be followed through because maximizing the current value of shares will be possible. If the situation is reversed, then the current dividends due to investors will be distributed and if the two rates are tantamount, then the value of the company is independent from the rate of dividend distribution (Nicoleta-Claudia Moldovan, 2004).

M. Albouy and P Dumontier (1992) have considered that, the dividend is what remains from the rested profit after the decision of choosing the most profitable investment and the least expensive financing source, based on the net present value and the weighted average cost.

The most presented argument in favor of distributing dividend in a small measure if at all is the fact that through these, the company possesses larger funds in pursuit of its current activity or developing it.

Theories that support dividend distribution also exist, one of them being the template drawn up by Myron Gordon and Ely Saphiro (1956). It starts by assuming that the value of the company is given by the value of distributed dividends updated at the profitability rate asked by investors. The template considers distributing year-on-year increasing dividends and takes into account certain restrictive hypotheses such as the absence of taxation and the cost of share transaction or investments carried out solely based on net profit.

The resulting conclusion of this Gordon-Saphiro template materializes in counteracting the equity neutrality theory proven by Miller and Modigliani (N. C. Moldovan, 2004).

The "bird in hand" theory supported by Myron Gordon (1959) and John Lintner (1962), according to which an increased rate of dividend corresponds to an increase in the value of the company, is mentioned by M. Pirtea, H. Cristea, C. Nicolescu and C. Botoc (2010, p. 169). This theory claims that the equity policy exhibits its effect over the share prices that are expected to be directly proportional to the distributed dividends. In the context of this theory shareholders prefer running collection of dividends, considering them a safer solution than a potential future gain. They consider the reduction of the distributed dividend aggregate as a possible warning for a worsening situation of the company and associate the increase in distributed dividends with a future increase in share prices.

In the situation than the taxation policy encourages reinvestment, the option of cashing dividend by shareholders is questioned as a rational choice and the phenomenon appears that in literature is known as the "dividend paradox" (V. Dragota, 2003). Explaining this phenomenon has been attempted, possible solutions being represented by the sign theory, the agent theory or the behavioral theories.

The sign theory affirms the exclusively informational role of the dividend through which the perspectives of the company can be better anticipated.

The agent theory says that the dividend represents a way of monitoring the company's managers' or main shareholders' activities. There are researchers that have pointed out that shareholders can assume a different position, in different moments, in regards to rational behavior; here the dividend acts as a way of monitoring consumption.

4. Conclusions

As we well know, the main and maybe only important goal of an economic entity is to obtain profit, through the goods it markets, or through the services it provides.

Without a doubt the success of the conducted business will especially depend on existent and potential demand for these goods/services, but also on the quality and their properties,

on competition, the economic, taxation and cultural environment where the business develops.

In other words, in order to achieve this goal of obtaining profit, economic entities must permanently adapt to the circumstances of their environment, then constantly adapt the products offered to customers such that these can fold as best as possible over their needs and requirements and constitute the first choice when it comes to the specific category of goods and services in question.

Not only goods supplied by the entity must be adapted to these conditions, but also the management policy of the company, the financing policy, the investment policy and the dividend policy.

We believe that every economic entity should identify and establish its own dividend policy, according to its possibilities, its interests and the situation surrounding it.

References

- Albouy, M., Dumontier, P. (1992). *La politique de dividende des entreprises*. PUF, Paris, p.308.
- Brealey, R.A., Myers, S.C., Allen, F.(2008). *Principles of Corporate Finance*.McGraw-Hill International Edition, Singapore, p.3.
- Degos, J. G., Griffiths, S. (2011). *Gestion financière, de l'analyse à la stratégie*. Eyrolles, Paris, p.136.
- Dragotă, V. (2003).*Politica de dividend*.Editura All Beck ,București, pp.12-25.
- Gordon, Myron J., and Eli Shapiro, 1956, *Capital equipment analysis: The required rate of profit*, *Management Science* 3, pp.102-110.
- Merton Miller and Franco Modigliani (1961). *The Journal of Business*, vol.34, p.411.
- Moldovan, N.C. (2004).*Costul și structura capitalului societății comerciale*.Editura Universității de Vest, Timișoara, pp.114-117.
- Moles, P., Parrino, R., Kidwell, D. (2011).*Corporate Finance*. John Wiley and Sons, Glasgow, p.661.
- Murray, Z. F. &Vidhan, K. G. (2003). *Capital Structure Decisions*. SSRN Working Paper Series, p.135.
- Nistor, I.E.(2002). *Finanțele întreprinderii*.Presa Universitară Clujeană, Cluj-Napoca, p.21, pp.267-269.
- Pirtea, M., Cristea, H., Nicolescu, C., Boțoc. C. (2010).*Managementul financiar al companiei*.Editura Mirton, Timișoara, p.169.
- Talpoș, I., Pirtea, M., Cristea, H., Corduneanu, C., Lăbuneț, A. (2001).*Gestiunea financiară a societăților comerciale*.Vol. I. Editura Mirton, Timișoara, pp.67-68.
- Vintilă, G. (2010). *Gestiunea financiară a întreprinderii*. EdituraDidacticășiPedagogică, București, pp.426-428.

SPECIFIC INDICATORS IN THE FINANCIAL PERFORMANCE ANALYSIS OF THE PUBLIC UTILITY SERVICES

Aniko Kuntz, Cristina Driha

Doctoral School of Economic Sciences, Faculty of Economic Sciences, University of Oradea, Romania

ancsaktz@gmail.com

cristina.driha@gmail.com

Abstract: *This article presents a short foray into the scientific specialized literature regarding the concept of performance, highlighting the fact that it takes the form of financial indicators that reflect the capacity to obtain good results in a competitive environment, and therefore the progress of the entities. It is essential to satisfy the requirements and the needs of the client in the field of public utility services, the performance in this field being the only feasible option to ensure the quality of the services safety and accessibility, the equal treatment of the users, the continuity of the activity and last, but not least, the adaptability and the flexibility regarding the requirements. Through the performed research, by using the method of observation and the analysis of the documents, we have drawn the conclusion that: the necessity to establish a set of indicators particular for the public utility services, that combine financial indicators with non-financial information, is in fact the establishment of the scientific perspective approach in financial decision making in this field of activity.*

Key words: performance, performance dimensions, public utility services, requirements of the public utility services, operator minimum indicators

JEL classification: L32, L97

1.Introduction

In the specialized literature, but especially in practice, there is a diversity of opinions regarding the assessment of the financial performance of the public utility services. The diversity of opinions does not necessarily bring a clearer understanding of the concepts regarding the peculiarities of the public utility services, but moreover it creates confusion and ambiguity (Gruian and Banc,2010). To this adds up the fact that, in practice, the performance indicators of the public utility services are established by the central or local administration authority according to the characteristics of the public utility service, to the specific characteristics determined by the geographical area where it is performed, the degree of wear of the existing infrastructure, the necessary funds etc. The complexity of the matter is influenced also by the nature of the various legal relations of the “actors”, that is: the authority of the public administration is represented by public institutions, the associations organized by the latter (inter community development associations) are private legal persons with the status of public utility recognised by law, and the operators that provide the service to the end users are private companies (with private share capital, majority State owned or mixed, respectively public or private estate). Each of these have legal, accounting and fiscal regulations and apply special laws according to the type of public utility (water, heating, sanitation etc.). This is the reason why it has become necessary to use a “common dictionary”, respectively to provide a uniform definition of the used terminology, to lay down specific indicators and to assess the results under existing national socio-economic conditions. The existence of a set of specific indicators would allow to measure the performances and to establish some decision examples that would help the entities who perform in the field of public utilities. In the present paper, using the

specific methods of qualitative analysis, we have made a radiography of the financial indicators of the performance in the public utility services, respectively those regulated in this field at the level of 2019.

2.The analysis of the concept of performance by the specialized literature

Browsing through the specialized literature in search of the concept of performance, we noticed the existence of many articles and studies that measure the performance of the company or assess the impact of certain factors on it, even the existence of certain papers that tackle the concept in a purely theoretical approach (Gruian and Banc,2010). These papers highlight the idea that although there are many articles and studies concerning performance, there are very few that actually define the concept of performance (Tangen,2005,p34). Most often, the definition of financial performance is done by including and/or quantifying the various indicators. That's the case as well with the authors Niculescu and Lavalette (1999,p256) who define the performance as being "a state of competitiveness of the economic entities, achieved through a level of productivity and efficiency that ensures a durable presence on the market". These two authors, through the financial indicators they refer to, they highlight that the entity must record a positive, ascending tendency, on one side, and the other that by satisfying the established requirement, there is a reduced number of entities with outstanding accomplishments in a competitive environment. Authors like Verboncu and Zalman (2005,p63) regard the performance as "an outstanding result in terms of management, finance, marketing etc., that implies the efficiency and competitiveness of the companies and their procedural and structural behaviours". We take notice of the complex way in which the concept of performance is tackled, by also highlighting the fact the in order to achieve performance it is necessary to obtain a good result on all levels, because each one of them has an influence on the general performance. The authors Bărbulescu and Băgu (2001,p 55) state that performance is represented by "that level of the best results". We therefore take note that according to several authors, the performance includes the ability to have access to resources, to distribute and use them optimally with the purpose of a sufficient remuneration in order to cover the risk taken and to justify the interest, with the scope of future durable development (Gruian and Banc, 2010). We also note that the concept of performance is associated with the capacity make progress, with the constant and sustained effort in terms of competition (Albu and Albu, 2005, p30). This dynamic approach connect performance to action, behaviour and not only to result. "The concept of performance is abstract, and defining it is often done through other concepts: efficiency, effectiveness and value (Albu and Albu,2005,p31). Bedrup (1995) defines performance in a business environment by using three dimensions: efficiency, effectiveness, and adaptability (flexibility), dimensions through which the level reached reflect the competitiveness of a company. According to the author, the performance management includes three main processes: - planning, improvement and review, thus highlighting the dynamic character of the term of performance.

The performance of the public utility services is a complex concept, which in the specialized literature is defined from several perspectives, thus ensuring the management of certain activities that need to be in accordance with the interests of a large number of users.

The definition of performance in terms of public entities cannot be separated from the process of assessment, a process that implies the collection, analysis, report and use of information regarding the status and the results of the activity. The measurement of the responsibility engaged towards the beneficiaries of the public utility services is performed by quantifying the performance, respectively of the used relevant financial and non-financial indicators. Reporting the information regarding the performance of the services represents the universal, accessible, optimal and transparent framework, through which the efficiency/inefficiency of the public entity management is assessed, as well as the way

in which the resources are distributed and the public funds are spent. The general theoretical configurations of the term of performance must be collated, combined with the specificity of the public utility activity, and this is why the definitions for performance have included also the non-financial indicators that are essential to the public sector. In the last years, these indicators tend to weigh more in the management's decision making process in the field of public utility services.

3. The assessment of the public utility service in Romania and its regulated specific indicators

The public utility services are subject to certain obligation particular for the public sector, with the purpose of ensuring a high level of quality, safety and accessibility, equal treatment, promoting the universal access and the rights of the users. The legal provisions aim at satisfying as fully as possible the users' requirements, protecting their interests, strengthening the economic and social cohesion among local collectivities, as well as the sustainable development of the territorial and administrative divisions (Law no 51/2006 republicate).

The public utility services are defined in the national legislation as being all the activities that ensure the fulfilment of the utility needs that are essential and of general public interest, having a social value for the local collectivities, in term of: Water supply; piping and sewage treatment: Collection, sewage and disposal of rainwater centralized thermal energy supply; municipalities sanitation; public street lighting; gas supply; local public transportation (Law no 225/2016).

The legislature, through Law no 225/2016 highlights that the organization and operation of the public utility services must ensure the fulfilment of the public service duties established according to the following fundamental demands: Universality; Continuity in terms of quality and quantity; Adaptability to the users' requirements; Equal and non-discriminatory access to the public service; and transparency of the decision making and the protection of the users.

For the organisation, operation and development of the public utility services, the general interest of the local collectivities is a priority, which implies the assessment of certain non-financial information such as: satisfying the quality requirements of the users; population good health and life quality; sustainable development, protecting and making the most of the public and private field of the administrative and territorial divisions, protecting and preserving the environment according to the specific regulations in force (Law no 225/2016).

In fact, even from the EU pre-adhesion period, the operators of the community public utility services have deployed significant program with non-refundable financing, such as USAID, ISPA or SAMTID. Consequently, the financial and social situation, as well as the legislation have evolved, as regional operators have been created, as well as associations for inter-community development. In practice, the public service operators have known a particular evolution, on each sector, but on various levels, as they implemented and accomplished investment projects with European funding and they are currently involved in co funding credits for these projects. Moreover, they have in plan for the upcoming period works for public utilities, pertaining to the funds for the Large Infrastructure Operational Programme (LIOP) 2014-2020. Given the necessity to continue the investments in the public utility services sector in order to achieve the targets set by Romania in the Adhesion Treaty, as well as given that, for now, the investment will be redirect to the rural area, which determines a decrease of economic efficiency, a new phase is required in organizing these services. Analysing the present situation, in conjunction with the set objectives and strategies, has determined the authorities, following a collaboration with all the parties involved, in 2019, to regulated the performance indicators system for the public utilities services, that would allow the systemic and comparative analysis of the costs, by comparison to a typical company, well managed and adequately equipped with the

resources necessary for fulfilling the public service duties. The indicators evolution is studied for the last three years and it looks at: exploitation income, exploitation outcome, debts (current/outstanding), out of which those for the consolidated general government revenues and claims (current/outstanding). This system of indicators is used only for granting operating licences or for modifying terms associated to the licence within the contracts for management delegation and is applicable to the public utility services operators that must fulfil, according to the level of indicators, two minimal requirements of financial capacity, the exploitation outcome must be a positive one (profit) and in terms of debts towards the consolidated general government revenue, not to hold outstanding debts to the budget of the National Regulation Authority for Public Utility Community Services (Order no. 291/2019 for the amendment of appendix no. 7 of the Regulation regarding granting licences in the field of public utility community services). We noticed the restricted field of application and the minimal level of financial performance required by the legislature. This is the reason why each entity involved in the public utility services still applies its own system of performance indicators, usually traditional ones (measuring past results) without being connected to strategies and quality indicators (Zeman et al, 2016, pp 52-57).

4. Conclusions

Consequently, by taking a first step and regulating the indicators regarding the minimum financial capacity requirements for operators in the field of public utility services, in the personal opinion there is a niche research regarding the elaboration of a set of specific indicators for the whole system of public utility services, which will ensure a unitary, coherent and transparent approach of the whole system, with an emphasis on qualitative indicators, in a dynamic and competitive perspective.

References

- Albu, N., Albu, C., *Soluții practice de eficientizare a activităților și de creștere a performanței organizaționale*, Editura CECCAR, București, 2005
- Andronic, B.C., *Performanța firmei. Abordare transdisciplinară în analiza microeconomică*, Editura Polirom, Iași, 2000
- Bărbulescu, C., Băgu, C., *Managementul producției*, vol. II – Politici manageriale de producție, Editura Economică, București, 2001
- Gruian, D.F., Banc, P., *Delimitări teoretice cu privire la conceptul de eficiență și formele sale*, Analele Universității Constantin Brâncuși, Seria Economic nr.4, Târgu Jiu, 2010, pp243-255,
- Bedrup, H. Background for performance management for A. Rolstadås, *Performance management – A business process benchmark approach*, Chapman and Hall, London, 1995
- Legea nr. 51 din 8 martie 2006 (**republicată**) serviciilor comunitare de utilități publice, Monitorul Oficial, Partea I nr. 121 din 5 martie 2013
- Legea nr. 225/2016 pentru modificarea și completarea Legii serviciilor comunitare de utilități publice nr. 51/2006, Publicat în [Monitorul Oficial, Partea I nr. 942/23.11.2016](#)
- Niculescu, M., Lavalette, G., *Strategii de creștere*, Editura Economică, București, 1999
- Ordin nr.291/2019 pentru modificarea anexei nr.7 la Regulament privind acordarea licențelor în domeniul serviciilor comunitare de utilități publice.
- Tangen, S., Demystifying productivity and performance, *International Journal of Productivity and Performance Management*, Vol. 54, Nr. 1, 34-46, 2005
- Verboncu, I., Zalman, M., *Management și performanțe*, Editura Universitară, București, 2005
- Zeman Z., Bacs Z., Ban E., Fenyves V., *Hiteles vagy "felrevezeto" szamviteli informaciok ertekelese a nemzetkozi es magyar gyakorlat osszehasonlitasaban*, Controller Info, 2016/3, pp52-57.

STOCHASTIC DEMAND IN INVENTORY MANAGEMENT

Marius Gelu PAUL

Doctoral School of Economic Sciences, University of Oradea, Romania
pmarius101@yahoo.com

Abstract: *In this article the author highlights the stochastic nature of the inventory management especially due to the uncertainty of the demand. The company needs to give great importance to inventory management, not only because of the cost increase in case the stock level is higher than the demand level, but also because of the risk of stock-out. In case of an inventory lower than the demand, the economic entity can suffer a great imbalance and relationship damage regarding its partners. Yet, most authors consider that normal distribution is a suitable approach for the probabilistic demand, but there are other opinions too. This paper explains the normal distribution and gives an example of safety stock and reorder point calculation under a probabilistic demand.*

Keywords: probabilistic demand; normal distribution; z-score; safety stock; reorder point

JEL classification: G31, D81

1. Introduction

Inventory management is strongly influenced by some variables, from which the most important is the demand. If the demand is greater than the inventory level, the company is dealing with shortage. If the demand is less than the inventory level, the company face the situation of excess. In both cases the economic agent must adjust the inventory levels. In most cases the demand is uncertain, as a result, there is a need to estimate the evolution of this variable using a form of distribution. Starting from the premises that normal distribution is a suitable way to solve this issue, we present a simple example of determining a safety stock and a reorder point when the demand is probabilistic.

2. Literature review

Mirzaee (2017) considers the following supply chain variables to be taken into account: the demand, the lead time, the production time and the transportation cost. This are influenced by random perturbations and the nature of the environment. A company needs to respond to the changes of this variables. Thus, the inventory control may be the answer.

Most authors consider that the demand shape has an essential impact on the inventory management. The demand is usually a stochastic variable and can be predicted by using various forms of distribution.

Jensen and Bard (2001) start with the assumption that the demand is unknown, but the probability of the demand distribution is known. They create stochastic models for inventory management and propose to use the Poisson distribution if the expected demand within a time period is low or the normal distribution if the expected demand within a time period is high.

The influence of the demand shape can be significant, inventory levels can increase more than 100% given the coefficient of variation. Testing various distributions for the demand size led to the recommendation of an unimodal or J-shaped Beta-distribution for inventory management systems. As a result the normal distribution can be used properly only if the mean is high with respect to the variance. (Janssen and Ramaekers, 2008)

However the most predominant choice is the normal distribution, as a continuous demand distribution. Donselaar and Broekmeulen (2014) disapprove this choice if the average demand is very low or if the uncertainty demand is high.

Inderfurth and Voegelang (2011) consider that not only the demand is uncertain, but the production is also exposed to random yields, and developed a concept to cope with both of them.

There are many models for inventory management in the industrial or economic literature. Brander and Forsberg (2006) analyze the case of the inventory and production of multiple items, each with random demand, on a single facility. The proposed model calculates the safety stocks and estimates the variation of the demand during the lead time.

According to Donselaar and Broekmeulen (2014) the lead time is "the time which elapses from the moment a replenishment order is created until the moment the replenishment order arrives in the stock point."

Other researchers use models based on lead time reduction. Among the first ones are Liao and Shyu (1991) who assumed that the lead time is controllable and can be broken down into several components, each of them having a different linear crash cost function (cost of accelerating the completion of production). They also assume that the demand follows the normal distribution. The extra cost generated for shortening the lead time would reduce company investment in safety stocks and improve system responsiveness.

The literature survey reflects that the normal distribution is indeed a suitable way to deal with the uncertainty of the demand regarding the inventory management, but with some limits. The most important limit is that the demand needs to be high for the results to be conclusive. Also there are other variables that can be probabilistic and you need to consider, like the lead time, the production time or some supply costs.

3. Normal distribution for stochastic demand in inventory management

Naturally to forecast the future you need to know the past. An extended analysis of the previous inventory data is required starting with the mean and standard deviation of the past years sales. In Eurostat's (2018) acceptance, the mean is calculated as the sum of the values divided by the amount of numbers in that group of values.

According to Altman and Bland (2005) standard deviation is used to estimate the variability of the population from which the sample was drawn. In terms of inventory management a company uses standard deviation to see how much the sales fluctuates from one month to another around the mean.

The normal distribution is also known as bell-shaped distribution and it is a symmetrical distribution in which the mean, median and mode are all equal (or have very close values).

According to Ribeiro (2004) the normal distribution of a random variable X with mean μ and variance σ^2 has the probability density function:

$$P(x) = \frac{1}{\sigma\sqrt{2\pi}} e^{-(x-\mu)^2/(2\sigma^2)}, x \in (-\infty, +\infty)$$

The standard normal distribution is the normal distribution with the mean $\mu = 0$ and the standard deviation $\sigma^2 = 1$. It is also called the z distribution, any normal distribution can be transformed into a standard normal distribution using $z = (x - \mu)/\sigma$. Then if you use these values in the probability density function results:

$$P(x) = \frac{1}{\sqrt{2\pi}} e^{-x^2/2}$$

The z-score shows the number of standard deviations a random variable x is above or below the mean. The probability associated to a x value that is higher or lower than the mean can be determined using standard statistical tables, created starting from the probability density functions. Also the z-score can be determined starting from a given probability.

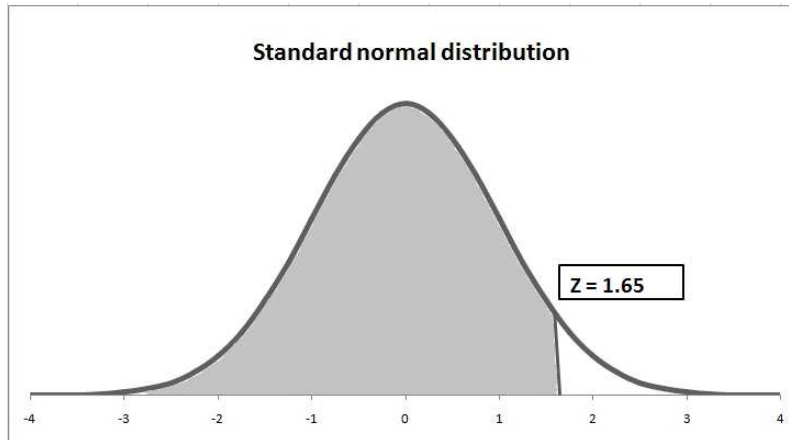


Figure 1: Standard normal distribution curve with $z = 1.65$ standard deviations
Source: Own processing using Microsoft Office Excel

The utility of the normal distribution is that it can describe data sets and can be used for computing probabilities. The graph area under the curve is the probability of having data between the two chosen values. For example in Figure 1 the highlighted area means that the probability of a value to be at most 1,65 standard deviations above the mean is 95%. If it is assumed that inventory management means knowing when to order a supply, then it can be used a simple model based on normal distribution of demand, a reorder point and a safety stock.

According to this model when the demand is probabilistic the safety stock (S_s) can be calculated (Luthra and Roshan, 2011):

$$S_s = Z\sigma_{dLT}$$

Where: Z - the number of standard deviations

σ_{dLT} - Standard deviation of demand during lead time

Naturally a company needs to order a new supply when the inventory reaches a level named reorder point (R_p) (Prastacos, 2014):

$$R_p = \mu + S_s$$

Where: μ - average demand or the demand during the lead time

Or if you integrate the formula of safety stock:

formula of safety stock:

$$R_p = \mu + Z\sigma_{dLT}$$

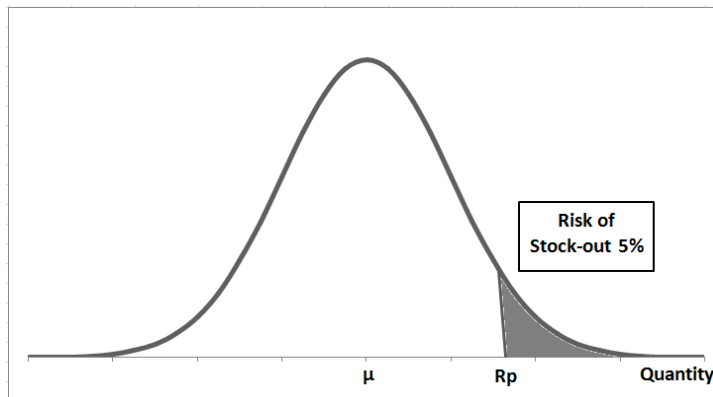


Figure 2: Risk of stock-out when $z = 1.65$ standard deviations

Source: Own processing using Microsoft Office Excel

For exemplification we consider a retailer that has the average demand for one of his commodities 500 pieces, the standard deviation of the demand during lead time 20 pieces and the accepted risk of stockout 5%. Results that we need z for a 95% probability, the area under the curve of normal distribution. Using the normal distribution tables or other methods (like NORMSINV function in Excel) we determine that z is about 1.65. Then the safety stock is: $s = 1.65 \times 20 = 33$ pieces. Also the level of inventory that shows the retailer that he needs to make a new supply is $Rp = 500 + 33 = 533$ pieces

4. Conclusion

The demand is the most important stochastic variable of the inventory management. This paper comes to strengthen the fact that the normal distribution is a suitable alternative for dealing with the uncertainty of the demand, but only if the demand is high enough. The presented model reflects a simple way to determine the safety stock and the reorder point using standard normal distribution for probabilistic demand. For further studies more complex models can be used and other probabilistic variables can be introduced. Also various form of distribution can be tested and see if they are more suitable than normal distribution in some cases.

References

- Altman D. and Bland M., (2005). Standard deviations and standard errors, *Statistics Notes in BMJ*. [Online] Available at: <https://doi.org/10.1136/bmj.331.7521.903> [1 Nov 2019]
- Brander P. and Forsberg R., (2006). Determination of safety stocks for cyclic schedules with stochastic demands. *International J. of Production Economics* 104(2), pp.271-295. [Online] Available at: <https://doi.org/10.1016/j.ijpe.2004.11.009> [30 Oct 2019]
- Donselaar K.H. and Broekmeulen R.A.C.M., (2014). Stochastic inventory models for a single item at a single location. *Beta Working Paper series 447*. [Online] Available at: <http://purl.tue.nl/708391088818209> [30 Oct 2019]
- Eurostat (2018) [Online] - https://ec.europa.eu/eurostat/statistics-explained/index.php/Beginners:Statistical_concept_-_Mean_and_median [1 Nov 2019]
- Inderfurth K. and Voegelang S., (2011). Concepts for Safety Stock Determination under Stochastic Demand and Different Types and Random Production Yield. *Otto von Guericke Universitat Magdeburg Working papers No. 3*
- Janssen G. and Ramaekers K., (2008). On the choice of a demand distribution for inventory management models. *European J of Industrial Engineering* 2(4) pp. 479-491

- Jensen P. and Bard J. (2001), Stochastic Inventory Models, Inventory Theory. The University of Texas at Austin [Online] Available at: <http://www.me.utexas.edu/~jensen/ORMM/supplements/models/inventory/stochastic.pdf> [29 Oct 2019]
- Liao C.J. and Shyu C.H., (1991). An Analytical Determination of Lead Time with Normal Demand. *International Journal of Operations & Production Management*. 11(9). pp. 72-78
- Luthra N. and Roshan R., (2011). A New Framework for Safety Stock Management. Cognizant. [Online] Available at: <https://www.cognizant.com/InsightsWhitepapers/A-New-Framework-for-Safety-Stock-Management.pdf> [3 Nov 2019]
- Mirzaee, A. (2017). Alternative Methods for Calculating Optimal Safety Stock Levels [Online] Available at: <https://pdfs.semanticscholar.org/6ad9/2c711c29618c572b5c2d0fe639b55673c2cb.pdf> [29 Oct 2019]
- Prastacos G., (2014). Inventory Management. *Supply Chain Analytics*. Stevens Institute of Technology. [Online] Available at: https://www.academia.edu/38933854/BIA_674_-_Supply_Chain_Analytics_12._Inventory_Management [3 Nov 2019]
- Ribeiro M.I., (2004). Gaussian Probability Density Functions: Properties and Error Characterization. Lisbon: Institute for Systems and Robotics. [Online] Available at: <http://users.isr.ist.utl.pt/~mir/pub/probability.pdf> [3 Nov 2019]

FISCAL RISK WITHIN VAT COLLECTION

Adriana Elena Porumboiu¹, Ionela Butu¹, Raluca Ghetu¹, Petre Brezeanu²

¹*Doctoral School of Finance, Bucharest University of Economic Studies, Bucharest, Romania*

²*Phd Professor, Department of Finance, Bucharest University of Economic Studies, Bucharest, Romania*

adriana_porumboiu@yahoo.com

ionela_butu@yahoo.com

gheturaluca93@yahoo.com

petre.brezeanu@fin.ase.ro

Abstract: *Since 1967, the 6 states that then formed the European Economic Community (EEC) decided that value added tax (VAT) would be the most important indirect tax of the Member States. Moreover, its use by the countries wishing to join the EEC was an indispensable condition. In 2019, VAT is a tax used by all 28 European Union (EU) Member States, but the system for collecting public revenues from this tax is not a perfect one and it can be improved. This article aims to highlight the link between the VAT collection deficit and the standard VAT rate applied in each of the EU countries. The data used in this analysis are those published in September 2019 by the European Commission through TAXUD and refer to 2017.*

Keywords: value-added tax; VAT Gap; VAT revenue; standard VAT rate.

JEL classification: H26; H71.

1. Introduction

A strict control, at national level, of the income and assets/wealth of each individual taxpayer - natural and legal person - is a utopia. The collection of taxes due to the state budget as a result of such control would rather emphasize the coercive force of the state within the society, as opposed to the increasingly studied idea of voluntary tax compliance (Pomeranz, 2015).

Complying with tax laws is indeed a civic obligation. However, the nominal value of the taxes owed depends on the accuracy and completeness of the taxpayer's tax returns. As the fiscal obligation affects the budget of the taxpayer, there is a well-known, intuitive possibility for the latter to make a misreporting.

From this perspective, we can see that the struggle for voluntary compliance takes place on several levels, not only strictly fiscal, but it is a complex process with social and psychological implications. In addition to the measures of the public administration to combat evasion, there is talk of forming a conscience of the taxpayer, a "tax morale" (Luttmer and Singhal, 2014) that dictates to him a responsible fiscal behaviour. The authors claim for the need to create non pecuniary motivations, capable of determining within taxpayers a uniform behaviour of compliance, so a social norm of compliance.

2. The situation of VAT collection in EU countries (2017)

As stated in the literature, public financial resources ensure the needs of the social environment (Anghelache et al, 2018). Therefore, the failure to achieve the expected level of tax revenues is not only a loss of the state as an institution, but is a loss of the whole society in general, of each member of it in subsidiary.

The European Union supposes a customs union that allows the movement of goods and services internally without applying additional tariffs. However, this facility was also used for the purpose of avoiding tax payment. In this sense, at European level there is a VAT fraud of carousel type (Sergioiu, 2012). Although the phenomenon exists as well at the national level of member states, its presence in the EU implies effects on all countries, a complex network (that's why it is even more difficult to monitor and destroy), huge amounts of unpaid VAT.

In EU, for 2017, the situation of the VAT deficit and the standard rates applied for this indirect tax in each member state is illustrated in the following graph.

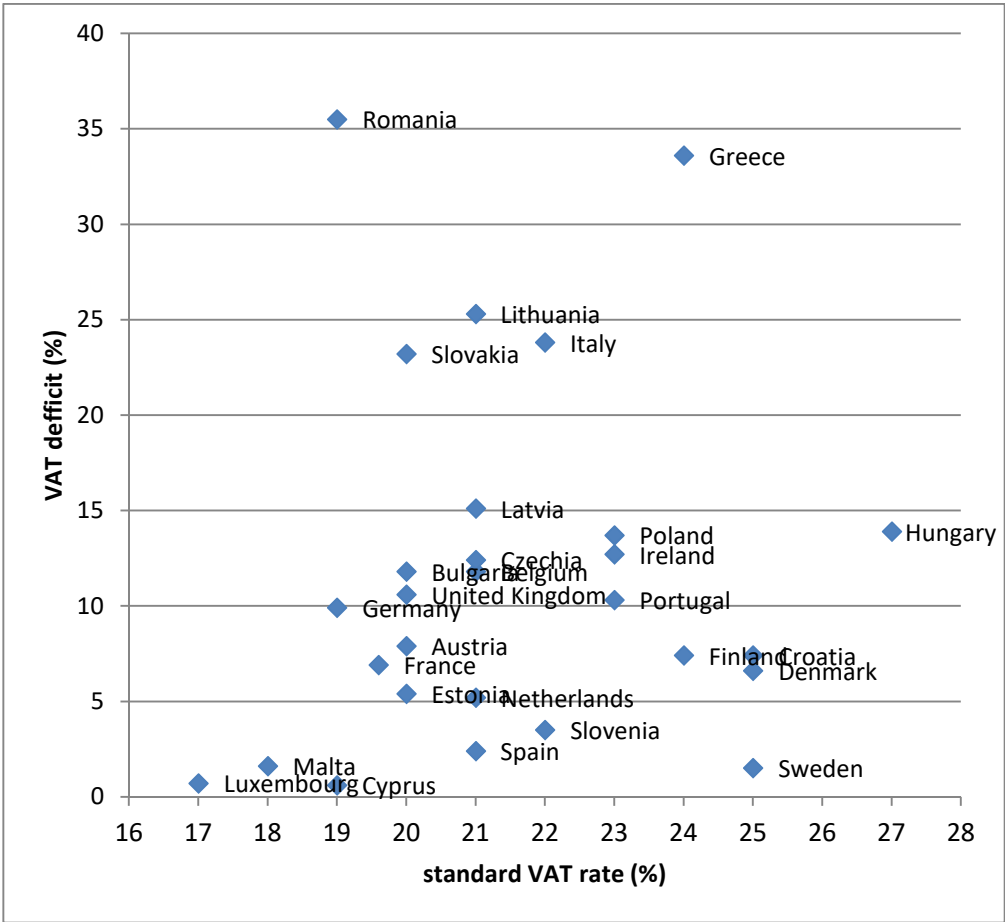


Figure 1: VAT Gap (%) correlated with VAT standard rates (%) in EU (2017)
 Source: own representation, based on data provided by 2019 TAXUD Report

The lowest VAT rate in EU can be found in Luxembourg (17%) and the highest in Hungary (27%). This information emphasizes that the range regarding standard VAT rates in EU is not high and "represents a step towards harmonization" (Vlad et al., 2018). Nevertheless, VAT collection difficulties were faced by all the member states and led to different results in terms of VAT collection deficits in 2017, from 0.6% in Luxembourg to 35.5% in Romania.

The first remark we can make from this graph is that the smallest deficits were in the countries with lowest VAT rates - between 17% and 19% (Cyprus, Luxembourg, and Malta registered VAT Gaps less than 2%). At the other pole, the biggest VAT collection deficits were not recorded by the countries having the highest VAT rates in the EU, as we might think. Croatia, Sweden, Denmark or Hungary, each with a standard VAT rate of 25% or more, were not in the top of VAT gaps, their deficits were below 15%. Therefore, we cannot infer that there is a directly proportional relationship between the two elements analyzed, VAT rate and VAT Gap.

The countries with the highest levels of VAT Gap were Romania and Greece, with values exceeding 30%, followed by Lithuania, Italy, Slovakia, with values between 20% and 30%. The standard VAT rates of these states were closer to the European average and were in the range of 19% - 24% in 2017.

The graph also shows that among the VAT rates practiced, the 19% and 24% ones seem to be the most controversial, with extreme deficits. Using a VAT rate of 19% in 2017, Romania had a deficit of 35.5%, while Germany 9.9% and Cyprus only 0.6%. Similarly, with a 24% standard rate, Finland had a deficit of 7.4%, when in Greece 33.6% of VAT revenues were going missing.

Romania's VAT collection deficit, with a value of 35.5% of the total value of VAT estimated revenues, remained in the first position in the EU regarding the VAT non collected. Compared to countries such as Cyprus or Luxembourg which have lost less than 1%, or compared to the EU average of 10.1%, Romania lost from its VAT returns 34%, 25% respectively more.

Tax revenues in the countries of Central and Eastern Europe (including Romania) are based on indirect taxes, especially on VAT (Ibadula et al., 2017). Therefore, a large deficit in VAT collection, as in the case of Romania, where it exceeded one third of the total VAT expected, has an even more pronounced impact as the share of VAT revenues in the total tax revenues is higher.

The main sources of VAT deficits are reviewed by the European Commission: the level of voluntary tax compliance, fraud, avoidance, bankruptcy, insolvency or an imperfect tax administration system. Apparently, these notions seem to be very different, but the VAT Gap actually comes from the chaining of these processes: from the use by the taxpayers of the legislative deficiencies, of the procedural gaps regarding the tax administration, by adopting an evasive behaviour.

Specifically, the procedures by which the VAT payment is avoided are listed by Ciobanu (2019): undeclared or registered sales accounting with a lower value than the real one, false invoices or the use of the same invoice several times to obtain unmerited deductions, use the exemptions provided by law without these being applicable, the deliberately erroneous registration of certain amounts that may change the amount due to the state budget.

3. Conclusions

The most important conclusion that emerges from the analyzed chart is that the level of the standard VAT rate does not guarantee the deficit in a certain interval. However, a reduced VAT rate also implies a lower risk of losing revenue from this source. If the level of standard VAT rates does not decisively influence the VAT Gap, it means that the deficits are the result of the interaction of several factors, such as: organization of the tax administration system, events in the life of companies with an impact on the VAT collection - bankruptcy, insolvency, the extent of tax fraud, VAT exemptions used abusively, factors that deserve to be studied separately.

References

- Anghelache, C., Anghel, M.G., Lilea, F.P.C., Chiliment, M. (2018), "Analysis of the Evolution of Public Finances in Romania", *Romanian Statistical Review*, Supplement, 3, 68-79
- Bene, F. G. (2011), *Cod de bune practici în colectarea creanțelor fiscale*, Editura C. H. Beck, București
- Brezeanu, P. (1999), *Fiscalitate: concepte, metode, practici*, Editura Economică
- Brezeanu, P., Simon, I., Celea, S. (2005), *Fiscalitate europeană*, Editura Economică
- Ciobanu, R. (2019), „Split TVA sau plata defalcată a TVA. Noțiune. Reglementare. Avantaje. Dificultăți de implementare.”, *Curierul Fiscal*, nr.1/2019, pp. 23-27
- Ibadula B., Vlad C., Brezeanu P. (2016), "Taxation influence on economic stability in Romania - and European Union", *Jurnalul Sea Open Research*, pp. 275-28
- Ibadula B., Vlad C., Ioniță, C. (2017), "Direct Taxation Trends in the European Union and Romania, The influence of Direct Taxation on Budget Deficit", *Revista Economică*, Lucian Blaga University of Sibiu, Faculty of Economic Sciences, vol.69(4), pp.118-128
- Luttmer, E.F.P., Singhal, M. (2014), "Tax Morale", *Journal of Economic Perspectives*, American Economic Association, vol. 28(4), pp. 149-68
- Pomeranz, D. (2015), "No Taxation without Information: Deterrence and Self-Enforcement in the Value Added Tax.", *American Economic Review*, 105 (8): 2539-69
- Sergioiu, L. (2012), "VAT Carousel Fraud in the European Union", *Journal of Accounting and Management*, vol.2, no. 2
- TAXUD/2015/CC/131, *Study and Reports on the VAT Gap in the EU-28 Member States: 2019 Final Report*
- Vlad, C., Ibadula, B., Brezeanu, P. (2018), "Tax Harmonization in Fiscal Competitiveness Context", *Finance–Challenges of the Future*, University of Craiova, Faculty of Economics and Business Administration, vol.1(20), pp. 45-52
- www.ec.europa.eu

TRIANGULAR FUZZY INDICATORS OF MODERN PORTFOLIO THEORY

Lidia Vesa

Doctoral School of Economic Sciences, Faculty of Economic Sciences, University of Oradea, Romania

lidiavesa@gmail.com

Abstract: *This paper offers another perspective upon the well-known indicators of Modern Portfolio Theory (created by Harry Markowitz): arithmetic mean or geometric mean for return on financial assets and covariance between the assets included in the portfolio. This perspective consists of modelling these statistical indicators, using the triangular fuzzy numbers, due to the advantages they have. The first advantage of the fuzzy approach is the return on financial assets is expressed in intervals with minimum and maximum values, called the triangular fuzzy number. This advantage makes the decision of investment more accurate, especially considering the volatility of financial assets. The second advantage of using the triangular fuzzy number in modeling the financial return is its membership function, which allows the investors to evaluate their investments, depending on the membership degree.*

Keywords: triangular fuzzy number (TFN); performance indicators; financial return; financial risk; financial assets;

JEL classification: G11; G10

1. Introduction

The portfolio selection theory comes from the assumption that investors seek to maximize the return while minimizing the risk of investments, and they are willing to assume a higher risk only if a higher expected return compensates the risk. Based on this assumption, the investor's portfolio can be analyzed within two balanced dimensions: the expected return of the portfolio and the risk of the portfolio. The expected return is calculated as a weighted mean of the expected individual returns. The financial risk - synonymous with volatility in Markowitz's theory - is measured by these tools: " (1) calculation of expected return, (2) the variance of an expected return; (3) the standard deviation from an expected return, (4) the covariance of a portfolio of securities" (Mangram, 2013).

2. Literature review

The portfolio diversification was a subject of interest for many researchers. Markowitz was the author of the portfolio diversification theory or Modern Portfolio Theory (MPT), which was developed by many following researchers. Sharpe (1964) built CAPM (Capital Assets Price Model). Carlsson et al. (2002) introduced the trapezoidal fuzzy number as financial returns in portfolio selection. Liagkouras and Metaxiotis (2018) proposed the use of fuzzy logic for mean-variance portfolio optimization with transaction costs. (Sun et al., 2019:6).

Using fuzzy logic in Modern Portfolio Theory is a challenging direction for portfolio optimization, due to the capacity of fuzzy logic to manage the vagueness of input parameters (expected return and financial risk), in order to minimize the estimation errors .

3. Modelling Triangular Fuzzy Financial Asset Return

3.1. Traditional versus triangular fuzzy return on asset

The financial asset return is a performance indicator that provides information about the earnings that investors gained over a period. Assuming that no dividends were paid over the period, the formula of financial asset return is $R_a = (P_{t1} - P_{t0}) / P_{t0}$ (Chen, 2013), where P_t and P_{t0} is the price of the asset in time t and t_0 . The return of a financial asset over a time horizon t (R_{ai}) can be described as follows:

$$R_{ai} = \begin{pmatrix} t_0 & t_1 & t_3 & \dots & t_n \\ R_{a1} & R_{a2} & R_{a3} & \dots & R_{an} \end{pmatrix}$$

Modeling financial assets return with the triangular fuzzy number is due to the volatility of financial assets that form a portfolio. In order to analyze the volatility of assets, the first step is to transform real number in fuzzy number and to create an adequate membership function. Thus, financial return has to be transformed from the Markowitz form to fuzzy form.

Definition 1: Let the financial asset return on the financial market be R_a , and let $F [0,1]$ be the rules set for all fuzzy triangular numbers. The fuzzy number (R_a) is considered the triangular number of the financial asset return: $R_a = \{r, \mu_r / r \in R_a\}$, where $\mu_r : R_a \rightarrow [0,1]$, if the membership function is :

$$\mu_r = \begin{cases} 1 - \frac{r_x - r_a}{r_b - r_a}, \text{ for } r_a \leq r_x \leq r_b \\ 1, \text{ for } r_x = r_b \\ 1 - \frac{r_c - r_x}{r_c - r_b}, \text{ for } r_b \leq r_x \leq r_c \\ 0, \text{ for the values out of the range } [0,1] \end{cases}$$

Definition 2: Let the triangular fuzzy number that defines the financial asset return be of the form: $R_a = \{r, \mu_r / r \in R_a\}$, for every $i = \overline{1, n}$. The set $[R_a]^\alpha = [R_{a1}(\alpha), R_{a2}(\alpha)]$, for every $i = \overline{1, n}$ is considered the level set of triangular fuzzy number R_a , where:

$$R_{a1}(\alpha) = (r_b - r_a)\alpha + r_a$$

$$R_{a2}(\alpha) = r_c - (r_c - r_b)\alpha$$

The triangular fuzzy number for the return on asset is as follows:

$$R_{ai} = (r_{ai} \quad r_{bi} \quad r_{ci}), \text{ for every } i = \overline{1, n}$$

Example 1: There are two financial assets A_1 and A_2 , which are included in a portfolio. The data about their returns in the year N are as follows:

$$R_{a1} = \begin{pmatrix} M_1 & M_2 & M_3 & M_4 & M_5 & M_6 & M_7 & M_8 & M_9 & M_{10} & M_{11} & M_{12} \\ 0.1 & 0.4 & 0.6 & 0.5 & 0.3 & 0.7 & 0.7 & 0.8 & 0.7 & 0.7 & 0.6 & 0.7 \end{pmatrix}$$

$$R_{a2} = \begin{pmatrix} M_1 & M_2 & M_3 & M_4 & M_5 & M_6 & M_7 & M_8 & M_9 & M_{10} & M_{11} & M_{12} \\ 0.5 & 0.5 & 0.3 & 0.4 & 0.6 & 0.7 & 0.5 & 0.6 & 0.7 & 0.8 & 0.5 & 0.9 \end{pmatrix}$$

From this data series, the most frequent value of the returns for A_1 and A_2 is 0.7 and 0.5, but, there are also maximum and minimum values for the returns of these assets. Considering this volatility, the returns for these assets may be fuzzified in the triangular

fuzzy number as: R_{a1} (0.1 0.7 0.8) and R_{a2} (0.3 0.5 0.9). The minimum value of the fuzzy number represents the minimum value of assets return in the year N, while the middle value is obtained through the mode function, which is the most frequently occurring return in the year N. The membership function of these financial assets A_1 and A_2 represents the probability degree of return realization. Because of its frequency, the mode value of the assets represents the highest degree of realisation, and the margins of the fuzzy numbers represent the lowest grade of realisation.

3.2. The expected financial asset return with triangular fuzzy numbers

According to Modern Portfolio Theory, the expected financial return “can be viewed as the historic average of a stock’s return over a given period of time” (Mangram, 2013). With fuzzy logic, the expected return for asset A_i is the medium value of the triangular fuzzy return $R_{ai} = (r_{ai} \ r_{bi} \ r_{ci})$ (Luengo, 2010):

$$E_f(R_{ai}) = \frac{r_{ai} + 4r_{bi} + r_{ci}}{6} = \frac{1}{6}(r_{ai} + r_{ci}) + \frac{2}{3}r_{bi}$$

where: $E_f(R_{ai})$ - triangular fuzzy expected return for asset i ;

$r_{ai} \ r_{bi} \ r_{ci}$ - left, peak, right elements of triangular fuzzy return.

Example 2 (Continuing Example 1): According to the Markowitz Theory, the expected non-fuzzy returns for assets A_1 and A_2 are: 0.56 for A_1 and 0.58 for A_2 .

The expected fuzzy rate return for the two assets A_1 and A_2 , considering the above formulas, are: $E_f(R_{a1}) = 0.62$ and $E_f(R_{a2}) = 0.53$

From this example, it can be observed that the non-fuzzy financial return and the triangular fuzzy return for asset A_1 have different values; the same goes for A_2 . This difference comes from the fact that the non-fuzzy return does not consider the frequency of the return values in year N, while the triangular return considers the frequency of the peak value in year N and offers a higher weight of the most frequent return value. This means that the fuzzy expected return is more feasible based on trades history.

4. Modelling the covariance with triangular fuzzy numbers

Covariance measures the relationship between the returns for one asset and returns for another. If the covariance is positive, the returns of the assets are positively related. If the covariance is negative, the return of the assets is negatively related. In Modern Portfolio Theory, the covariance is used for portfolio diversification. In order to reduce portfolio risk, an investor must include assets with negative covariances.

Using triangular fuzzy numbers and their level sets, the covariance between financial returns of assets A_1 and A_2 is (Boloş et al., 2019):

$$\begin{aligned} Cov(R_{a1}, R_{a2}) &= \frac{1}{4} [(r_{b11} - r_{a11})(r_{b21} - r_{a21}) + (r_{c11} - r_{b11})(r_{c21} - r_{b21})] \\ &+ \frac{1}{3} \{ [(r_{a21}(r_{b11} - r_{a11}) + r_{a11}(r_{b21} - r_{a21})) \\ &- [r_{c11}(r_{c21} - r_{b21}) + r_{c21}(r_{c11} - r_{b11})]] \} \\ &+ \frac{1}{2} (r_{a11}r_{a21} + r_{c11}r_{c21}) + \frac{1}{2} E_f(R_{a1})E_f(R_{a2}) \end{aligned}$$

Example 3: The covariance between the returns of the assets, from first example, A_1 and A_2 is: 0.0119. That means that these two assets are positively related; when the return of

first asset increases, the return of the second asset increases as well. The fuzzy between A_1 and A_2 is: $Cov(R_{a1}, R_{a2}) = 0.51$

The fuzzy covariance is positively expressed in non-fuzzy number, because the multiplying and dividing arithmetical operations have real results, not triangular fuzzy results. The positive covariance represents a positive relationship between the two returns of the assets A_1 and A_2 .

5. Conclusion

In conclusion, the major advantages of using fuzzy logic in modelling the indicators of Modern Portfolio Theory are:

- Using fuzzy numbers is more reliable when the investor wants to estimate the risk or the gain for his portfolio, or for his future transactions;
- The membership function of the financial asset return or the membership function of the financial risk indicates the most frequent value in a given period and the degree of attaining the other values of return. By using this component of the fuzzy number, the investor will be informed about the realization degree of the expected return values, analysing the frequency of the returns in the previous period.

References

- Boloş, M., Bradea, I. and Delcea, C. (2019), *Modelling the performance Indicators of Financial Assets with Neutrosophic Fuzzy Numbers*, [Online], Available: <https://www.mdpi.com/2073-8994/11/8/1021>
- Chen, M. (2013) *Financial Time Series and Their Characteristics*, [Online], Available: http://web.nchu.edu.tw/~finmyc/tim_serp.pdf
- Gharakhani, M. and Sadjadi, S. (2012) *A fuzzy compromise programming approach for the Black-Litterman portfolio selection model*, [Online], Available: http://www.growingscience.com/dsl/Vol2/dsl_2013_6.pdf
- Luengo, E. (2010) *Fuzzy mean-variance portfolio selection problems*, [Online], Available: <https://core.ac.uk/download/pdf/19722311.pdf>
- Mangram, M. (2013) *A Simplified Perspective of the Markowitz Portfolio Theory*, [Online], Available: https://www.researchgate.net/publication/256034486_A_Simplified_Perspective_of_the_Markowitz_Portfolio_Theory