Vol. 11, No 3, 2014

MEGATREND REVIJA
MEGATREND REVIEW

3/2014

Megatrend univerzitet, Beograd
Megatrend University, Belgrade

MEGATREND REVIJA • MEGATREND REVEW
No 3/2014

Izdavač:
Published by:
Megatrend univerzitet, Beograd
Megatrend University, Belgrade

Direktor izdavačke delatnosti:
Publishing director:
Branimir TROŠIĆ

ISSN 1820-3159

UDK / UDC 3

Svi članci su recenzirani od strane dva recenzenta.
All papers have been reviewed by two reviewers.

Adresa redakcije:

Editorial address:
Megatrend revija / Megatrend Review
Goce Delčeva 8, 11070 Novi Beograd, Srbija
Tel.: (381-11) 220 30 03
Fax: (381-11) 220 30 47

E-mail: mtopic@megatrend.edu.rs
www.megatrendreview.com

U finansiranju časopisa učestvuje Ministarstvo prosvete, nauke i tehnološkog razvoja Republike Srbije.
The financing of the journal is supported by the Ministry of Education, Science and Technological Development of the Republic of Serbia.

"Megatrend Review" is the leading scholarly journal
of national importance, according to the classification M51,
classified by the Ministry of Science, of Republic of Serbia.

* * *

"Megatrend Review" is registered
in The International Bibliography of the Social Sciences (IBSS)
produced by the London School of Economics and Political Science
– Pro Quest Michigan USA.

* * *

"Megatrend Review" is registered and published
in EBSCO's (EBSCO Publishing Inc.) Database "Business Source Complete":
http://www.ebscohost.com/titleLists/bth-journals.xls

* * *

"Megatrend Review" is registered
in GESIS "Knowledge Base SSEE", Leibniz Institute for the Social Science:
http://www.cee-socialscience.net/journals/

The Library of Congress Catalog

Megatrend review: the international review of applied economics.

LC Control No.: 2007201331
Type of Material: Serial (Periodical)
Uniform Title: Megatrend Revija. English.
Main Title: Megatrend review : the international review of applied economics.
Published/Created: Belgrade : ill. ; 24 cm.
Description: v. : Megatrend University of Applied Sciences, [2004]-
Year 1, no. 1 ('04)-
ISSN: 1820-4570
CALL NUMBER: HB1 .M44

CIP – Каталогизација у публикацији
Народна библиотека Србије, Београд

3

MEGATREND revija = Megatrend review / glavni urednik = editor-in-chief Boris Krivokapić. - God. 1, br. 1 (2004)- . - Beograd (Goce Delčeva 8) : Megatrend univerzitet, 2004- . - 24 cm

Tromesečno. - Nasl. i tekst na srp. i engl. jeziku. - Od br. 3 (2012) preuzima: Megatrend review = ISSN 1820-4570
ISSN 1820-3159 = Megatrend revija
COBISS.SR-ID 116780812

Sadržaj
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A WORD FROM THE EDITOR

Respected readers,

In this issue of the Megatrend review, we have published a selection of papers presented at the international scientific conference „Economic background and development", which has been organized by Megatrend University and "Varazdin Development and Enterpreneurship Agency", held in Belgrade at the Megatrend University on the 10th and 11th of April 2014.

The conference was attended by the authors from universities and other scientific institutions from twenty five different countries on four continents – from: Albania, Bosnia and Herzegovina, Brazil, Columbia, Croatia, Czech Republic, Estonia, Georgia, Hungary, Indonesia, Iran, Israel, Italy, Latvia, Lithuania, Macedonia, Netherlands, Nigeria, Poland, Romania, Russia, Serbia, Slovenia, Spain and United Kingdom.

More than one report was presented from certain states.

Regretfully, in accordance with the adopted criteria regarding the limitation of the volume of our journal, the Editorial board was able to select only a part of these highly interesting papers.

In Belgrade 16th of September 2014.

Professor Boris Krivokapic PhD

Samuel Oluwatosin Ajibade[*]
Nurudeen Kayode Ayinla[**]

UDC 005.963.1:336.71(669)
Original scientific paper

INVESTIGATING THE EFFECT OF TRAINING ON EMPLOYEES' COMMITMENT: AN EMPIRICAL STUDY OF A DISCOUNT HOUSE IN NIGERIA

There has been a turn around and the take up of training as one of the key factors in improving company competitiveness. Evidence derived from research showed that there is now a broad agreement amongst commentators that skills training improve employees' commitment to the organisation. Training from a company's perspective adds to human capital and also a means of securing workplace commitment. The theoretical proposition therefore is that training will get employees more committed to the organisation. Organisational commitment when combined with job related behavioural commitment will lead to organisational performance. In order to achieve a high level of performance, organisations now require highly motivated and committed workers. This paper explored the relationship between training and employees' commitment to the organisation. The organisation on which the research was conducted is a Discount House in Lagos, South West Nigeria. The total of 150 completely filled questionnaires was utilised in this study. A regression analysis was conducted on the data collected. The study revealed that the training increases employee's commitment to the organisation.

Key words: Organisational commitment, employees' performance, high, performance work practices, human resource management

1. Introduction

The role of human resource management in enhancing organisational performance has attracted so much research attention, although a widely accepted definition of HRM does not exist, Storey (2001) defined HRM as a distinctive approach to employment management which seeks to achieve competitive advantage through the strategic deployment of highly committed and capable workforce. The general theory about human resource management has been cen-

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tred round issues like quality, commitment and performance. Quality according to Storey (2001) can be achieved by training employees in required skills. Training is central to the development of work system that aims to increase the contribution of the employees to the production process (Brown et al., 1994 and Keep, 1991). New work practices involve workers becoming more skilled, proactive and committed (MacDuffie and Kochan, 1995). For this to be achieved, both new and existing employees will need to be the trained. Santos and Stuart's (2003) in their studies on the benefit of training for organisations, assumed a direct connection between training strategy, hierarchy of performance, learning, behavioural change and performance influence.

Training and development is one of the modern management approaches in HRM. Emerging literatures have shown that the investment in human capital such as training is positively related to organisational performance. That is, training is expected to reduce turnover, and increase employee's commitment, which will result in longer employment duration. According to Keep (1989), training is a 'vital component' in organisational process of cultural change, a behavioural device that can be used to secure workforce commitment and to realise the potential of employees. For instant, Keep (1989) identified training and development investment as key determinants of organisational performance and economic growth. Conventional wisdom also suggests that investment in training and development are associated with a range of individual and organisational benefit. The clear assumption is that the more the training given to employees, the better (Santos and Stuart, 2003).

Training has been a subject of debate with various functions and definitions given to it. To some training is the ability of an organisation to develop skills and knowledge to do present and future job (Guest 1997) and to others it is an important employee motivator (Barret & O'Connell 2001). Different literatures have suggested that the development of a firm's human capital can provide a sustainable source of competitive advantage for the firm (Olson and Schwab, 2004).

However, training from a company's perspective adds to human capital and also a means of securing workplace commitment. Although the bottom line for most training and development activities is to improve organisational performance, studies have shown that most organisations devote little attention to the evaluation of training effectiveness. Keep *et al.*, (2002) argue that investing in training constitutes a powerful signalling device to reassure employees that they are valued by their employers, which in turn enhances their commitments to the organisation.

1.1. Employees' Commitment

There is no general agreement as to what can increase an employee's commitment to the organisation. Most of the conceptualization of commitment used in most of the American studies reflects more of managerialist and unitarist outlook (Guest 1997). Other labels such as high commitment (Guest et al., 1993), lean production (MacDuffie and Kochan, 1995), security employee involvement (Guest et al., 2000) have been given, even though most of them have focused on effective work management. Commitment according to Jaw and Liu (2004) is not only a human relation concept but also involves generating human energy and activating human mind. Without commitment, the implementation of new ideas and initiatives will be compromised (Ramus and Steger 2000 cited in Jaw and Liu 2004). Human resource system can therefore facilitate the development or organisational competencies through eliciting employees' commitment to the firm (Arthur, 1994). That is, organisations that have a fit with business strategy, structure and practices and policy will perform better. Walton (1995) prescribed "commitment" as a distinctive strategy for HRM whose positive effect will be felt.

Organisational commitment is a psychological strength of an individual's attachment to organisation. Arthur (1994) reported a positive impact of using high commitment human resource practices in managing firms' productivity and retention. Real commitment fosters a high level of individual learning, whereby the individual puts the organisation's need in front of their own. This could also enhance cooperative team work to facilitate transfer of individual learning (Argyris, 1998). Committed individuals align and mobilise themselves in actions directed at attaining organisational objectives, and they also share organisational values. Jaw and Liu (2004) said that organisational learning is aimed at ensuring that the organisation has competent employees with skills required to perform well. A learning organisation makes use of best HRM approach so as to achieve positive learning attitudes, empowerment, encouraging commitment, comprehensive training and performance emphasis. Firms that aspire to be learning organisations teach their employees how to learn, share information and also reward them for doing so. Most academic research on human resource management practices suggested that employees' commitment will increase organisational effectiveness by creating a condition whereby employees become highly motivated, committed and involved in the organisational activities aimed at achieving organisational goals (Arthur, 1994).

1.2. Employees' Training Explored

Identifying why employers are failing to train according to Keep and Rainbird (2000) is an attempt to find the solution to the problem. Amongst the explanation given were the market failure, lack of information and inadequate

individual resources (Lloyd 2002). Other commentators have argued that the training failure is more systematic and a reflection of Nigerian' economy. Even though the lack of training in Nigerian workplaces has sometimes been blamed on the lack of interest amongst workers, this in recent years does not hold water anymore. Rather, employers are blamed for not training their employees because they are trying everything possible to reduce running cost. Although various reports have been given on the positive impact of training on organisational commitment, Guest *et al.,* (2000) argued that for the effect of training to be felt, its values must lie in the part it can play in the integrated HRM strategy, especially when there has been so much investment in high quality and flexibility of the workforce.

1.3. Objective for the Study

The study investigated the relationship between training and commitment in Discount House in Nigeria. This paper therefore looks at training as a single HRM practice in a Discount House and its effect on employees' commitment to the organisation, with an expectation that establishments that train their workers will perform better than organisations that do not. Specifically, the main objective of the study is to:

To determine the effect of training on employees' commitment to the organisation.

Given the position of the existing literature on the relationship between training and commitment, the following hypothesis is developed

Null Hypothesis: *Training does not increase employees' commitment to the organisation.*

Alternative Hypothesis*: Training does increase employees' commitment to the organisation.*

2. Methodology

A total of 150 respondents, which represents eighty five percent of the total population in the Discount House, returned the questionnaire distributed. The respondents consist of 100 (66.7%) male employees and 50 (33.3%) female employees. The purposive sampling technique was used to select the organisation. The hypothesis tested in this paper is based on the comprehensive debate of the effects of high commitment work practices on organisational performance.

The Model of Analysis:

The model of analysis will be based on regression analysis, where

Y = bo + bi(T) + bii(Ti) + biii(Tii)……

Where (Y) is the dependent variable (commitment)

(T..Tii) are the independent variables

(b..bii) are the coefficient which can also be the slope, (bo) is the intercept or the constant upon which the independent variables are based on.

The research model and equation will be as follows

Commitment = Constant + Level of Training……equation (1a)

The variable *"commitment"* was used to measure all the responses to the question *'I am committed to this organisation'*? The responses to the question were broken down into those that strongly agree, agree, neither agree or disagree, disagree, strongly disagree. *"Training"* was further broken down into different number of days that employees were trained. The levels of training were *Less than two days training* for those who had received training for 1 to 2 days, *Less than five days training* for those that have received training for 2 to 4 days, *Less than ten days training* for those that had training for 5 to 10 days and finally, *Ten or more days training* is for those who had received more than 10 days training. A regression analysis using Statistical Package for the Social Sciences (SPSS) was conducted on these variables.

2.1. Results

The results show that training is positively correlated with employees' commitment to the organisation. The Null hypothesis that *Training does not increase employees' commitment to the organisation* stated in the previous section has been rejected and the Alternative Hypothesis that *Training does increase employees' commitment to the organisation* has been accepted. The result of analysis is illustrated in the Table 2 below.

Table 1: *An Overview of the Respondents*

Descriptive	(N=150)	Per cent (%)
Gender		
Female	(N=100)	66.7%
Male	(N=50)	33.3%
Age		
21-30	(N=15)	10.0%
31-40	(N=125)	83.3%
41-50	(N=10)	6.7%
Marital Status		
Single	(N=25)	16.7%
Married	(N=115)	76.7%
Widowed	(N=5)	3.3%
Divorced/Separate	(N=150)	3.3%
Academic Qualification		
HND, B.Sc., B.A.	(N=65)	43.3%
MBA, M.Sc., M.A.	(N=85)	56.7%
Work Experience		
Less than a year	(N=10)	6.7%
1-5 years	(N=123)	82.0%
6-10 years	(N=8)	5.3%
11-15 years	(N=9)	6.0%
Status of Respondent		
Management Staff	(N=25)	16.7%
Senior Staff	(N=30)	20.0%
Junior Staff	(N=95)	63.3%

Table 2: *The Relationship between Training and Employees' Commitment*

Equation: Y(employees' commitment_ = function * bi (Training)
Number of observations = 150

Variables	Coef	Std. Err.	Z	P>/z/
Less than 2 days training	.155911	.0201247	8.80	0.000***
Less than 5 days training	.253376	.0275708	12.42	0.000***
Less than 10 days training	.314738	.0282066	13.56	0.000***
Less than 10 days training	.351898	.0292490	14.46	0.000***

*** indicates that the coefficient is statistically significant at the 10% level.

The table above shows that the employees that The different levels of training such as the less 2, less 5, less 10, less 10 and more than 10 days training all had a standard error showing (.0201247, .0275708, .0282066, .029249), coefficients (.155011, .2533276, .3147038, .351898, respectively) and (Z = 8.8, 12.42, 13.56, 14.46) respectively and all are significant at 1%. The results showed that the size of coefficients is increasing as the level of training increases. These results suggest that the higher numbers of days training given to employees, the more committed they will be to the organisation. The positive sign indicates the direction of the relationship. That is, the more training given, the more committed an employee will be to the organisation.

2.2. Discussion

The statistical analyses have shown that the more training given, the higher the level of employees' commitment to the organisation. The study supports the existing literature that training is not only viable means of improving employees' knowledge and skill, but also a means of achieving higher employees' commitment to the organisation. This is similar to the study conducted by Porter and Tripoli (1997) that training signals commitment from the organisation to the employees, which will result in employees reciprocating such behaviour by demonstrating a stronger affective organisational commitment, which is quite productive and can affect performance. Although the direction of causality cannot be truly established, the results showed that training will increase employees' commitment to the organisation. By examining the relationship between training and commitment, this paper suggests that, by adopting and increasing employees' training will not only be beneficial to employees, but also to the organisation as a whole in the sense that it will give an organisation a competitive edge over others. It is suggested that training should be implemented as part of the larger organisational development strategies aimed at getting a committed workforce. This is because employees interpret training as an indicative of commitment from the organisation to them, and which they reciprocate according by being committed to the organisation.

2.3. Implications

The implications of this present study can explained in terms of the contribution it can make to the present knowledge of the relationship between HRM practices and organisational outcomes. Based on the findings, this paper suggests that by adopting and increasing employees' training will not only be beneficial to employees, but also to the organisation as a whole in the sense that it will give an organisation a competitive edge over others in terms of performance. That is training will not only improve the technical and non- technical skills

of the employees, but it can be used to get employees committed to the organisation. The effect of training in this situation is positive and beneficial to the financial service organisation. The employers at large should therefore invest more in training and increase the amount of training given to their employees so as to get them to perform better. To human resource management practitioners, employee training should be integrated into the HRM practises aimed at getting a committed workforce and also practices aimed at increasing organisational performance (Huselid 1996).

More awareness needs to be created so as get the general public educated on the bottom line and overall effect of training on employees' commitment to the organisation. For those organisations that train most of their employees, they are advised to keep up with the good act, and for those that have not, are strongly advised to make more conscious effort to change their management approaches to those aimed at getting a committed work force.

2.4. Limitations of the Study

This research looked at training from the perspective of the employees. This is a one-sided approach that has ignored the cost-effect of training on the organisation. Training in this current study has been suggested to be beneficial to both employees and employers, without laying much emphasis on the fact that training can increase the operational cost of running an organisation which can reduce the gross profit for those establishments that are large and train most of their employees. Furthermore, there might be the risk of losing most efficient and better-trained employees to other organisations that are ready to offer them more pay.

3. Conclusions

The main purpose of this paper is to investigate the effect of training on employees' commitment to the organisation. The empirical evidence suggest that the more training given to employees, the more committed they will be to the organisation. Further research is enquired so as to explore the relationship between training and other organisational performance measures, such as employees' performance, organisational performance, quality and productivity so as to be able to present more reliable explanations for the relationship between training and commitment.

Finally, since there are different human resource management practices aimed at getting workforce commitment, there is the need to focus on the efficiency and the adoption of other practices such as employees' involvement, con-

sultation, share ownership and direct communication on employees' commitment and the overall effect they can have on the organisation.

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Paper received: May 15th, 2014
Approved for publication: June 1st, 2014

Rad primljen: 15. maj 2014.
Odobren za štampu: 1. jun 2014.

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ISTRAŽIVANJE UTICAJA OBUKE NAD ZAPOSLENICIMA PREDANOST: EMPIRIJSKA STUDIJA JEDNE DISKONTNE BANKE U NIGERIJI

S a ž e t a k

Došlo je do preokreta kada su uvedene obuke za zaposlene, što se pokazalo kao jedan od ključnih faktora u poboljšanju konkurentnosti kompanija. Dokazi do kojih se došlo istraživanjem, pokazuju da je sada postignut širok konsenzus među komentatorima koji potvrđuju da je nakon obuke došlo do poboljšanja sposobnosti zaposlenih i njihove posvećenosti organizaciji. Obuka zaposlenih, iz perspektive kompanije, poboljšava ljudske resurse i daje značaj sredstvima koja osiguravaju predanost zaposlenih. Stoga je opravdan teorijski predlog da će istrenirani radnici biti više posvećeni organizaciji. Kada se koristi organizaciona posvećenost u kombinaciji sa poslovnim ponašanjem i posvećenošću zaposlenih, dovodi do organizacione performanse. Da bi se postigao visoki nivo učinka, organizacije sada zahtevaju veoma motivisane i predane radnike. Ovaj rad ispitao je odnos između obuke zaposlenih i posvećenosti organizaciji. Istraživdanje je sprovedeno u Discount House u Lagosu, u jugozapadnom delu Nigerije. Korišćeno je ukupno 150 potpuno popunjenih upitnika u izradi ove studije. Regresivna analiza obavljena je na osnovu prikupljenih podataka. Studija je otkrila da obuka i trening zaposlenih povećavaju njihovu posvećenost organizaciji.

Ključne reči: Organizaciona posvećenost, efikasnost radnika, visoki učinak rada u praksi, upravljanje ljudskim resursima

Lehte Alver[*]
Jaan Alver[**]

UDC 378.147:657(474.2)
Original scientific paper

DESIGN OF ACCOUNTING CURRICULUM: THE CASE OF ESTONIA

The process of globalization sets new requirements for the professional qualification of accountants and auditors. In the business world globalized investment market demands consistent high quality financial information across borders; investors are looking for a global accounting profession to provide it. There is more pressure on accounting professionals to expand and enhance their knowledge, skills, and abilities beyond what they are currently likely to possess. Providers of accounting education must take into account the changed world and create contemporary curricula.

In Estonia the change from a command to a market economy has inevitably influenced not only the accounting framework but also the entire system of accounting education. It is clear that without a design of accounting curricula it is practically impossible to fulfill requirements of nowadays high quality financial information. Tallinn University of Technology (TUT) holds on the advanced level of accounting education the leading position in Estonia. The accounting curriculum (on the graduate level as well as undergraduate level) is the most popular among all curricula at the Tallinn School of Economics and Business Administration of TUT. It is a joint system, which consists of undergraduate and graduate degree programs. Small sub specializations: for example in financial accounting, managerial cost accounting, taxation and auditing become evident while interpreting the graduate and undergraduate programs as one united system.

The paper explains a new model of accounting curriculum developed at TUT as well as its educational philosophy and principles of designing. It also describes conditions required for development and continuous improvement of competitive curriculum.

Key words: accounting curriculum, accounting education, Estonia

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1. Introduction

Estonia is a small country in the Baltic region of Northern Europe. The territory of Estonia covers 45,227 km² and the population was 1,286,479 in 01.01.2013 (referenced by e-stat). In the context of accounting, Estonia is one of the least-known states in Europe. The Estonian accounting regulation has only a relatively brief history compared to those of some other European countries. In 1918–1940, it was possible to learn accounting in several trade schools all over Estonia. In 1920, the Law Faculty of Tartu University established the Institute (Department) of Commercial Studies. In 1936, the Accounting Department was established at

Tartu University. It has to be noted that in spite of several learning possibilities the quality of the education was quite poor. It can be explained by the fact that there were no good teaching materials and Estonian speaking academics. After incorporating Estonia into the USSR in 1940, and in fact after World War II, the Soviet system of bookkeeping was in use. From 1945 until 1990 the Soviet influence on accounting development (including accounting education development) had been total because Estonia was a part of the former Soviet Union. Under the Soviet period all Estonian institutions of higher education had been conducting the accounting curricula on the basis of a single curriculum designed in Moscow. After declaring the restoration of the independence of the Republic of Estonia in 1990, it became possible to begin the reform of accounting and join the system of accounting of well-developed market-oriented countries.

Each Estonian institution of higher education was given freedom in designing and adopting its own curricula in any field of studies. A variety of programs and courses exist with even greater variations in quality. Due to the absence of official curricula and textbooks, the initiative for the development of these programs has been foremost with individual instructors and institutions.

2. Ten steps of development of accounting curriculum at Tallinn University of Technology

Curriculum building is very similar to building a new product. For institutions of higher education, a curriculum is like a product for industrial companies. The following steps must be covered (Nelson, Bailey and Nelson, 1998): study of potential markets; evaluation of raw materials; evaluate resources; study of competition; develop strategy (select your niche); state a mission; design a product; design a production process; implement change and monitor outcomes. Strategic planning is a tool which can help ensure that the change process will be effective. This concept has often been used in curriculum planning. On the basis of the model presented by Hofer and Schendel (1978) the current paper analyzes the current situation in Estonia.

2.1. Study of Potential Market

For creating a new product the potential market must be researched. The rapid development of a large number of micro, small and medium-size enterprises, joint ventures, and the privatization of large state enterprises created an increasing demand for well-educated, highly skilled accountants and auditors. In Estonia there are over 200,000 business entities and governmental units (referenced by e-äriregister) which must follow the Estonian Accounting Act. The auditing firms need new specialists. So the current analysis in Estonia shows that the situation is good because a lot of highly skilled accountants and auditors are needed.

2.2. Evaluation of Raw Materials

To be effective for creating a new product the quality of raw materials must be taken into account. The "raw materials" for the curriculum are students. In this area, each institution must carefully consider the demographics of its student body. There are many factors that must be taken into account: the demographic situation in country, the age distribution, mobility, location, and the number transferring to and from other institutions, work experience, commitments outside work, family commitments, and language skills.

The analysis shows that during the 1990s, the demographic situation in Estonia deteriorated. Estonia suffered a decline in its population of about 200,000, caused by a low birth rate (especially during the first half of the decade), and by emigration. The low birth rate influences the possible number of students. In the period between 1991 and 2000, live births registered in Estonia fell from 19,300 to 13,000 per year. Only in 1999 and in 2000 the number of live births has risen slightly, for the first time in eleven years (Demographic, 2012). Despite some limited encouragement in these trends, and an accompanying decline in the number of deaths, the population of Estonia is continuously decreasing. It creates economic problems and raises fundamental questions about the overall sustainability of a distinct Estonian society.

The age analysis must also be taken into account. In 1991, those aged 19 years and under, represented 29 per cent of the Estonian population, and those aged over 60 represented 17 per cent. By the year 2000, the corresponding figures were 25 and 20 per cent, respectively. As the average age of the overall population increases, so does that of working population. This results in a continuous decline in the proportion of the overall population that is still actively at work. This tendency is a big threat for curricula because the possible number of students is decreasing. In 2013, the population of Estonian people aged 15–24 years represented 11.9% and aged 25–54 years 41.3% from total population (Table 1).

Table 1: *Age Structure in 2013*

Age	Percentage
0–14 years	15.4%
15–24 years	11.9%
25–54 years	41.3%
55–64 years	13.1%
65 and over	18.2%

The current situation shows that more than one third of the population is living in Tallinn (over 436,000). This is a good sign for the curriculum because Tallinn University of Technology (TUT) is located in Tallinn.

All the mentioned characteristics are connected with general resources but there are some requirements set up by the university. A precondition for entry into the master's studies is the bachelor's degree awarded upon graduation from an accredited program, or higher education received through diploma studies or applied higher education. The suitable candidates are selected pursuant to the competition requirements established for the candidates. These requirements affect the quality of our "raw material" in a positive way (we receive the best students).

2.3. Evaluation of Resources

In a strategic analysis one's own inside resources must be evaluated. The strengths and weaknesses should be evaluated. The following questions could arise: is our teaching staff able to be in line with today's requirements (to teach new subjects)? Has our teaching staff enough knowledge? Do we have the critical mass to establish the curriculum? At what level are the language skills of our teaching staff?

The analysis conducted by the Accounting Department of TUT shows that the situation has deeply changed during last ten years. The average age of the teaching staff was 49 years in 2003 and it is 44 years in 2013. In 2003 the youngest lecturer was 32 years old, and in 2013 it is 28 years. In May 2011 the first doctoral dissertation was defended in the field of managerial accounting and in May 2012 in financial accounting. But still there is a lot to do. The situation in Estonia is not the best. The profession of a university lecturer is not highly valued.

2.4. Study of Competition

The nature of competition, market share, and how the institution of higher education reacts to competitive strategies have a significant influence on curricula and other strategic decisions. In Estonia accounting education is conducted at universities, colleges, vocational schools and specialized schools. Accounting as a part of general business education is taught at most Estonian institutions of higher education, which give business education, but there are very few university level educational institutions where accounting specialty has been established.

A competitive advantage exists when the firm is able to deliver the same benefits as competitors but at a lower cost (cost advantage), or deliver benefits that exceed those of competing products (differentiation advantage). Thus, a competitive advantage enables the firm to create superior value for its customers and superior profits for itself.

Table 2: *Comparison of content of Accounting related curricula on graduate level in 2013 (ECTS credits)*

Institution	**EULS**	**EA**	**TUT**
Curriculum	**120**	**120**	**120**
Accounting related courses			
Advanced Course in Financial Accounting	3.5	**7.5**	6
Special Accounting Course	3		
Accounting Theory			5
Group Accounting	3		5
Accounting for Nonbusiness Organizations	3		5
International Accounting			5
Accounting Information Systems	3	4.5	3
Financial Reporting and Analysis	5		6
Managerial Accounting	**3.5**	2.25	
Strategic Managerial Accounting and Cost Management			4
Cost Accounting		2.25	
Auditing	4		5
Internal Audit			5
Controlling	4		
Taxation		4.5	
International Taxation			5
Finance and Accounting Communication			3
Social and Environmental Accounting			3
Ethics for Accountants			2
Accounting related courses (compulsory + elective)	25+7	7.5+13.5	38+24
The number of accounting related courses (compulsory + elective)	7+2	3+4	8+6
Practical Training (Internship)	3	2	1
Master Degree Course Workshop	3	2	3
Graduation Thesis	30	25	30
Total number of ECTS	**68**	**50**	**96**

Cost and differentiation advantages are known as positional advantages since they describe the firm's position in the industry as a leader in either cost or differentiation. That is true for institutions of higher education too but the authors of the current paper are of the opinion that in this case the differentiation is more important to receive a competitive advantage. This is realized by different (better than the competitors have) curricula.

The next step in the study of competition is to study and compare the competing accounting programs: their advantages and disadvantages. There are only three institutions of higher education where the accounting related curriculum has been created for the master's level. These institutions are Estonian University of Life Sciences or EULS (Eesti Maaülikool, 2013), Euroacademy or EA (Euroakadeemia, 2013) and TUT (Tallinna Tehnikaülikool, 2013). In Table 2 above the content of the master's level accounting curricula is shown.

The figures outlined in bold denote compulsory subjects. For comparison purposes some subjects are modified. For example, the EULS has a subject Advanced Topics in Financial and Managerial Accounting with 7 credits but in Table 2 it is presented by two subjects: Advanced Course in Financial Accounting (with 3.5 credits) and Managerial Accounting (with 3.5 credits). The EA has a subject Managerial and Cost Accounting with 4.5 credits but in Table 2 it is presented by two subjects: Managerial Accounting (with 2.25 credits) and Cost Accounting (with 2.25 credits).

It must be marked that the EULS curriculum includes 9 subjects – 7 obligatory and 2 elective. The total number of credits related to accounting courses is 37. It must be emphasized that at EULS the accounting and finance curriculum is available only in the form of distance learning. The studied are organized once per month in the weekends and the amount of contact hours is 25% from regular contact hours.

The EA curriculum includes 7 subjects – 3 obligatory and 4 elective. The total number of credits related to accounting courses is 21. It must be marked that the specialization is quite weak and it is possible to graduate without graduation thesis, by taking an exam.

TUT has the most advanced curriculum. It includes 14 courses from which 8 are obligatory and 6 are elective. The total number of credits related to accounting courses is 62.

2.5. Strategy Development

In his various books (Porter, 1980; 1985; 1990; 1998) professor Michael Porter has developed three generic strategies that, he argues, can be used singly or in combination to create a defendable position and to outperform competitors, whether they are within an industry or across nations. Porter states that the strategies are *generic* because they are applicable to a large variety of situations and

contexts. According to Porter these strategies are (1) overall cost leadership; (2) differentiation; and (3) focus on a particular market niche. The generic strategies provide direction for organizations in designing incentive systems, control procedures, and organizational arrangements. The second generic strategy, differentiation, attempts to make an organization unique in a dimension that is valued by the customer – it means being different than every other organization. Differentiating the product or service, requires an organization to create something about its product or service that is perceived as unique throughout the industry. It involves making organization's products or services different from and more attractive those of its competitors. How to do this depends on the exact nature of industry and of the products and services themselves, but will typically involve features, functionality, durability and support as well as brand image that customers value. It is necessary to emphasize that the qualification of TUT Accounting Department's teaching staff is the highest in Estonia. This has enabled to build up the unique accounting curriculum with deep specialization.

The third generic strategy, the focus strategy, concentrates efforts on a narrow segment of the market. It answers to the question – what knowledge or expertise can you use or develop to add value for your customers that is not available to broad market competitors? Under a focus strategy, an organization focuses its efforts on one particular segment of the market and aims to become well known for providing products/services for that segment. They form a competitive advantage by catering for the specific needs and wants of their niche market. The Accounting Department of TUT has concentrated efforts on master level curriculum.

Porter specifically warns against trying to "hedge your bets" by following more than one strategy. Somewhat different from Porter the authors of this paper, based on their own experience in building up an accounting curriculum conclude that differentiation and focusing sometimes can be combined very successfully.

To create a new curriculum it is necessary to follow all previous steps: study potential markets, evaluate student body, evaluate the faculty staff and other recourses as well as study competition. The main question is: Is this a good product, is this unusual or unique? By examining the current situation in Estonia on the basis of students' research papers and bachelors' thesis the authors of this paper are of opinion that the knowledge about competitors is sufficient. Estonia is a small country where all resources are known. That is why Tallinn School of Economics and Business Administration (TSEBA) of TUT has developed its strategy through differentiation and unique segment of the market.

2.6. State the Mission

A formalized mission statement is essential in the planning process. The mission for TSEBA is to have the best accounting curriculum in the country. It should be emphasized that the Department of Accounting of TUT is the only department in Estonian institutions of higher education who has declared that its graduates must be able to work abroad.

2.7. Design of Product

After the fulfillment of steps 5 and 6 the product must be designed. At TUT the accounting specialization represents a sub-curriculum of the Business Administration curriculum at the undergraduate level and one of the curricula at the master's level. Together they form a "3+2" (undergraduate + graduate) Accounting curriculum which in total consists of 25 accounting related courses. The undergraduate part of the Accounting curriculum includes six courses (Introduction to Financial Accounting, Management Accounting, Taxation, Foreign Language for Special Purposes, Internship I and Research Paper) which are obligatory for all business students. In addition, these students who specialize in Accounting must take three compulsory courses (Intermediate Financial Accounting I, Intermediate Financial Accounting II and Cost Accounting) and they have an opportunity to choose Cost Accounting as elective course.

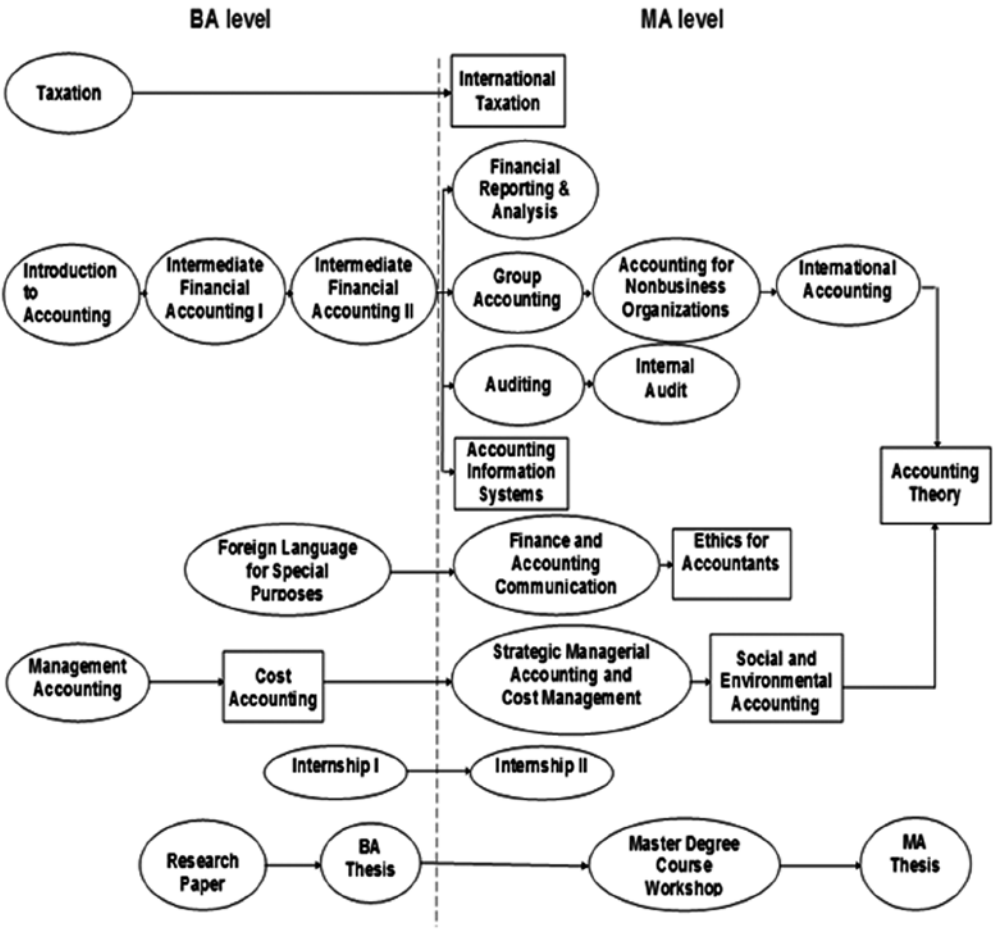
The authors of this paper agree with the position of the American Accounting Association's Accounting Education Change Commission (AECC, 1990) who in its *Objectives of Education for Accountants* has declared that "specialized accounting education should be offered primarily at the post-baccalaureate level and via continuing education". This vision has been shared by Sundem, Williams and Chironna (1990): "The main change in specialized accounting education is to move it almost entirely to the post baccalaureate level and to continuing education programs. The increased emphasis on breadth and the need to spend time in accounting courses developing basic skills will leave little time for specialization at the underground level".

The accounting curriculum includes six categories of subjects – general studies; basic studies; core studies; special studies; free choice courses; practice (internship) and graduation thesis.

The Figure 1 shows the conceptual model of the accounting curriculum at TUT. At the master's level students must score 120 credits. Every student admitted to a graduate degree program in accounting is required to enroll for all general subjects (total of 10 credits), basic subjects (14 credits), core studies (20 credits), special studies (42 credits) and free choice courses (4 credits). In total, it is possible to receive 58 credits by taking accounting courses; the master's thesis

gives additional 30 credits. It means that 88 credits out of 120 ECTS or 73% are related to accounting.

Figure 1: *Conceptual Model of Accounting Curriculum at TUT*



2.8. Designing of Production Process

It should be mentioned that it is possible to find some "small specializations" within TUT Accounting curriculum. For example, Financial Accounting, Management Cost Accounting, Taxation and Auditing (Table 3). It is clear while interpreting the graduate and undergraduate curricula as one united system. It results from the fact that the curriculum is based on the following matrix model as shown in Table 3.

Table 3: *Matrix Model for Accounting Subjects*

Level	Modules/subjects			
	Financial Accounting	**Management Cost Accounting**	**Taxation**	**Auditing**
Basic	Introduction to Financial Accounting	Management Accounting	Taxation	Auditing
Intermediate	Intermediate Financial Accounting I Intermediate Financial Accounting II	Cost Accounting		Internal Audit
Advanced	Group Accounting Accounting for Nonbusiness Organizations International Accounting	Strategic Managerial Accounting and Cost Management Social and Environmental Accounting	International Taxation	
Theory	Accounting Theory	Accounting Theory		

2.9. Implement Change

The new master's program with a deep accounting specialization started at TUT in 2005 and the first students graduated in 2007. The authors of this paper have monitored the outcomes and analyzed the results. The analysis shows that the students who have entered the master's program from higher education institutions other than TUT sometimes have not the necessary knowledge. For example, in some Estonian institutions of higher education such course as Intermediate Financial Accounting is missing at the undergraduate level. For that reason a new elective course named Advanced Topics in Financial Accounting has been included as an elective in the accounting curriculum at TUT. In addition one compulsory course (Finance and Accounting Communication) and two elective courses (Social and Environmental Accounting and Ethics for Accountants) have been included in fall 2009.

The curriculum development is a continuous process. From fall 2011, the Accounting curriculum on master level has two sub-curricula: Accounting and Auditing. In the Auditing sub-curriculum Auditing course has been split into two compulsory courses: Introduction to Auditing and Auditing of Financial Statements. In addition this sub-curriculum includes one new compulsory course (Governmental Auditing) and one new elective course (Fraud Examination and Forensic Accounting).

2.10. Monitor Outcomes

The last step in development of a new product is to implement an information system to provide feedback on 1) whether the strategic plans are being properly implemented as planned and 2) whether the strategy is yielding the intended results.

The popularity of Finance and Accounting curriculum is the highest at TSEBA. This opinion is supported by admission numbers in Table 4 and rate of competition in Table 5.

Table 4: *Admission Numbers*

Specialization	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13
Economics	25 (16)*	24 (16)	28 (16)	29 (16)	29 (16)	24 (16)	18 (16)	20 (16)
Finance and Accounting	66 (13)	68 (11)	82 (10)	81 (10)	98 (10)	90 (10)	95 (15)	81 (15)
Management and Marketing	54 (12)	51 (11)	56 (9)	58 (9)	68 (9)	67 (9)	49 (9)	69 (9)

**number in brackets indicates the number of state-financed student places from the total number of admissions.*

Table 5: *Rate of Competition to Student Places Formed on the Basis of State-Financed Education*

Specialization	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13
Economics	2.5	1.63	1.4	2.56	5.75	6.63	5.13	4.25
Finance and Accounting	5.77	5.82	9	9.9	21.4	20.08	19.1	17.6
Management and Marketing	5.25	3.45	7.4	6.89	19.5	19.11	16.22	17.5

*from 2009 the candidates have had a possibility to submit two applications on state-funded places.

The accounting sub-curricula (on graduate level as well as on undergraduate level) are the most popular among all (sub)curricula at TSEBA. In 2008 the Accounting curriculum was declared by the international experts to be the best at TSEBA.

3. Conclusions

The comparison of the contents of Accounting curricula at the graduate level at the Estonian institutions of higher education shows how different the structure and content of curricula can be inside of a small country. The freedom to design and adopt its own curricula gives an opportunity to be the best provider of accounting education in Estonia. At the same time due to the absence of official

curricula as well as sufficient number of high-qualified instructors and textbooks in the Estonian language, the quality of accounting education in Estonia can vary.

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Paper received: May 15th, 2014
Approved for publication: June 1st, 2014

Rad primljen: 15. maj 2014.
Odobren za štampu: 1. jun 2014.

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IZRADA NASTAVNOG PLANA ZA RAČUNOVODSTVO: SLUČAJ ESTONIJE

S a ž e t a k

Process globalizacije zahteva nove standarde u vidu profesionalne kvalifikovanosti računovođa i inspektora. U poslovnom sektoru, globalno investiciono tržište zahteva vrlo kvalitetno finansijsko izveštavanje koje premošćava granice; investitori traže da im svetska računovodstvena profesija to ponudi. Postoji pritisak na profesionalce iz oblasti računovodstva da prošire i unaprede svoja znanja, veštine i mogućnosti u poređenju s onima koje trenutno poseduju. Osobe i institucije koje obrazuju u sferi računovodstva treba da uzmu u obzir svet koji se promenio i da izrade moderne nastavne programe.

U Estoniji, promena iz centralizovane u tržišnu privredu je neminovno uticala na računovodstveni okvir kao i na celokupni sistem obrazovanja u domenu računovodstva. Jasno je da je, bez izrade programa nastave iz računovodstva, gotovo nemoguće obezbediti zahteve za današnje visoko kvalitetne finansijske izveštaje. Talinski univerzitet tehnologije (TUT) drži vodeću poziciju u Estonji kad je u pitanju visoko kvalitetno obrazovanje u računovodstvu. Nastavni program (na postdiplomskim i osnovnim studijama) je najpopularniji program od svih ponuđenih na Talinskoj školi ekonomije i poslovne administracije TUT.

To je zajednički program, koji se sastoji od osnovnih do postdiplomskih programa. Male podspecijalizacije: na primer u finansijskom izveštavanju, računovodstvenom praćenju troškova poslovanja, oporezivanju i kontrolama, uočljivo je pri sagledavanju istih da programi postdiplomskih i diplomskih studija pripadaju jednom jedinstvenom sistemu nastave.

Ovaj rad objašnjava novi model računovodstvenog obrazovanja stvoren u TUT-u kao i njihovu obrazovnu filiozofiju i principe u izradi istih. Takođe, objašnjava potrebne uslove za razvoj i konstantno unapređenje nastavnog plana kako bi ostao konkurentan.

Ključne reči: nastavni program za računovodstvo, računovodstveno obrazovanje, Estonija

Anna Stepuk*

UDC 336.227.2/.3
Original scientific paper

OFFSHORE INVESTMENTS-CUI PRODIS? SCHRÖDINGER'S CAT IN OFFSHORE FINANCING: BOTH ALIVE AND DEAD

Trends of FDI in offshore tax havens were compared to efforts and efficiency of regulatory authorities to prevent money laundering. Based on available data it was stated that current position in offshore FDI stays alive and officially dead at the same time, keeping the balance of interests for the main stakeholders: corporations, authorities and financial institutes support further offshore investments. Analysis based on volumes of trade and financial transactions between offshore centers, developed and developing countries. As a result withdrawal of financial resources from the developing countries degrades social capital funding and supports corruption growth.

Key words: FDI, money laundering, offshore financing, offshore investment, tax havens

1. Introduction

Years of struggling with the illegal capital flow to tax havens resulted in numerous legal restrictions, law enforcement, FATF-GAFI regulations, declaring in 2008 that all the suspicious offshore jurisdictions are "clean", and an offshore capital pie is doubling in 10 years. Under modest Boston Consulting Group estimates the main offshore investments have sized more than 7.5 trillion, the more severe evaluations were made by James S. Henry, states it is about 21-33 trillion. (Don't ask, won't tell, 2012) (Henry, 2012) The total direct and indirect losses associated with the withdrawal of assets from the budgets of the countries, comparing to an annual global GDP- $70 trillion and the average share of state budgets in the national GDP- about 40-50%, then "grey zone" of economies accounts for at least 10-12% of budget expenditures. This is roughly the same amount spent on the reproduction of social capital (health and education) in the countries. "After over 20 years of money laundering prevention, the results are disappointing: Organized crime and drug trafficking still prosper. Banks face a high burden because of their active involvement in money laundering prevention. The

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various prevention schemes have weakened the basic rights of the bank clients, who have to pay for the prevention measures." (Hans and Wuensch, 2006, p. 37)

The reason why offshore jurisdictions still exist and what is the final destination for the infinite stream of laundered money - these questions were answered in the paper by the example of two neighboring countries: Russia and Ukraine, several Group of Eight countries (Germany, United States of America and United Kingdom) and one of the leaders among developed countries in attractiveness for the offshore investments - Switzerland.

The main reasons for investing in offshore areas: tax planning, international trade and economic cooperation, protection of assets from creditors or derived from illegal activities (arms trade, drug trafficking), switching of jurisdiction to resolve legal disputes, if incomes, obtained as a result of locally restricted activities (corruption or insider trading), to improve the efficiency of resources allocation by investors contrary to the existing budget expenditures in donor countries. Of the above the majors in referenced countries are tax evasion and asset protection, disregarding crime activity. (Kar and Freitas, 2013)

Money laundering has a disastrous influence on economics, political and social situations in all the countries. According to "Multidisciplinary Economics of Money Laundering" by J. Ferwerda (Ferwerda, 2012), negative economic effect appears in decreased investment appeal, unfair competition between honest and dishonest business, distortion of prices and eventually the crowding out of honest business; political effect appears in disruption of the democratic systems by criminals (for example, drug dealers to be appointed to a high public post); social effect - increased corruption and business crime. But at the same time money laundering provides billion dollars investments in European banking system which result in additional loans for consumers and businesses, especially during financial crisis, and liquidity growth. So the question is whether money laundering harms anyone, and if it is, who are the victims and what amount of money would be enough to cover all the problems, caused by it, and to become beneficial for the developed countries' banking systems and economics.

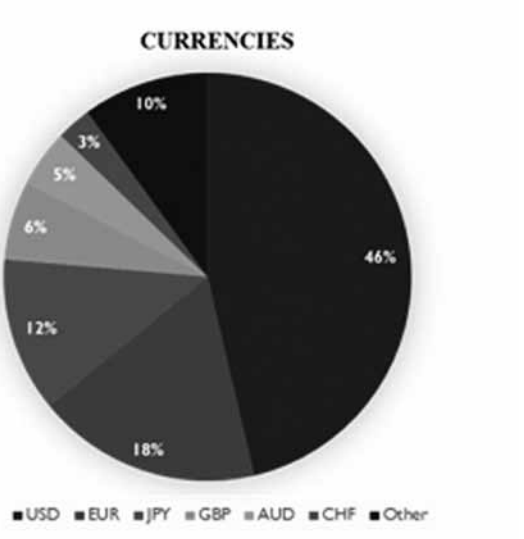
Estimates of global amounts of money laundering vary from 2 to 5% of GDP (John Walker, 1995, 2.8 trillion US$, Michael Camdessus, 1998, 1.5 trillion US$, Buehn and Schneider, 2006, 603 billion US$, 1.74% US GDP). Till the nowadays disputes on growth or decline and volumes of money laundering stay unresolved.

To keep consistency of the below analysis in my paper, cash flows volumes are mainly estimated according to official data (i.e. Central Banks, Federal Reserve System and Deutsche Bundesbank data). The data then used to answer the question whether offshore jurisdictions would exist and for whom money laundering is beneficial and whom it harms. In order to answer these questions this paper is divided in three sections: the impact on developed countries (USA, UK, Germany and Switzerland), developing countries (Russia and Ukraine) and comparison of the effect of money laundering consequences on all these countries.

2. Developed contries

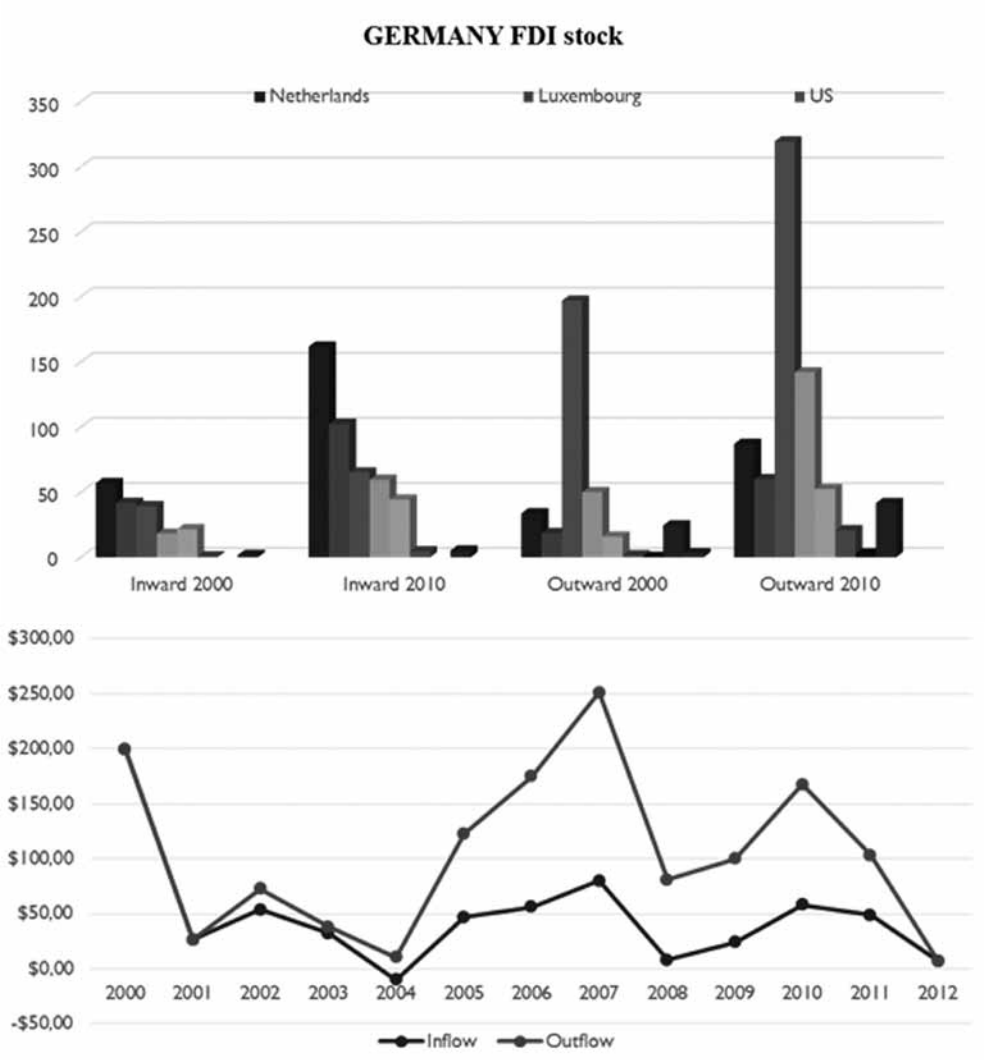
In the developed countries, outflow offshore investments lead to the reduced tax revenues and the budget detriment. As a result offshore investments originated from those countries are rigorously scrutinized by authorities. (Gravell, 2013) For example, a 2013 U.S. law comes into force - Foreign Account Tax Compliance Act (FATCA), under which foreign financial institutions will be required to monitor the payment of taxes to U.S. customers and report to the U.S. tax authorities. In case of failure of these institutions will be forced to pay 30% tax on their investments in the U.S.

Figure 1: *Turnover by currency (BIS, 2013, p. 7)*



On the other hand, offshore investments made by the developing countries contribute to the budget of the developed countries due to the surplus of an external capital (1.2 trillion), profiting from its allocation in the domestic market, geography of offshore zones and investing in the major convertible currencies. Most of the calculations are carried out in offshore areas, usually in major convertible currencies: U.S. dollars, euros, pounds, Swiss francs et al. According to the Triennial Central Bank Survey from September 2013 (Figure 1), the most traded currency are: USD (United Stated dollar), EUR (euro), JPY (yen), GBP (pound sterling), AUD (Australian dollar) and CHF (Swiss franc) As a result, the offshore assets allocate in the correspondent accounts of banks in the countries issuing those currencies. This, in turn, increases the amount of credit available in these countries and their emission revenues.

Figure 2: *Germany FDI stock by countries and flows (Jost, 2013, p.7-10)*

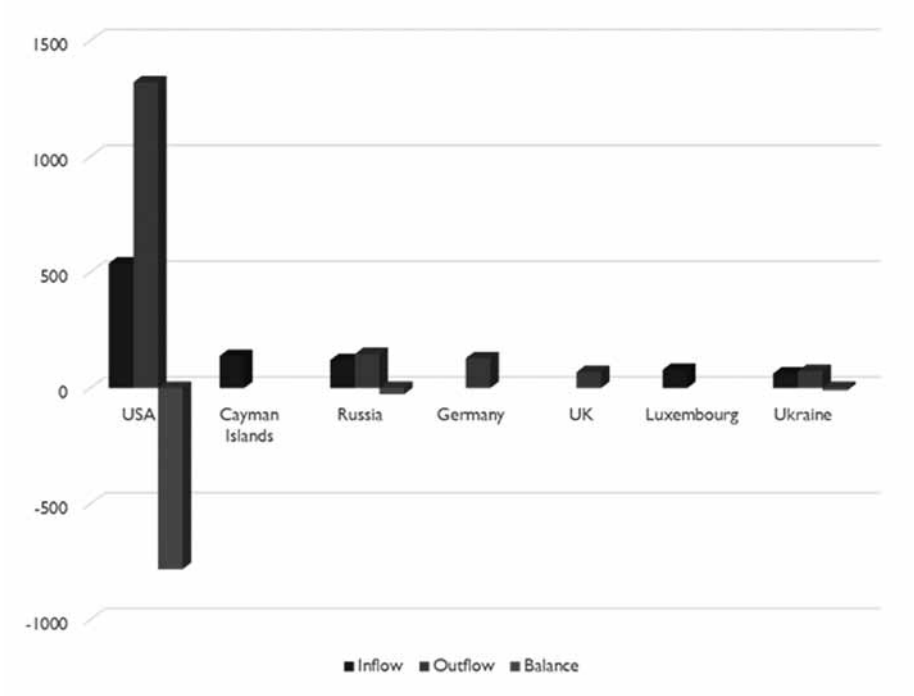


Another benefit from the money laundering to the developed countries could be seen from official FDI data: most of the beneficiaries prefer to have their money on deposits in strong and well-performed bank, i.e. in banks of the developed countries, for example Deutsche Bank, Barclays, JPMorgan, etc. They also prefer to invest in countries with stabilized and well-developed economics.

Investigation of capital flight in Germany gave us results, proving that money from offshore jurisdictions end up in developed countries. Great part of FDI inward Germany comes from Netherlands and Luxembourg, moreover this quantity is much more than these countries' GDP (additional material in Appendix).(Figure 2)

Capital flight chart shows that cash flows in offshore jurisdiction are much higher that annual GDP in these countries. That fact brings us to the conclusion that money sent to these countries end up somewhere else. Negative account balance in developing countries and positive in developed (exc. US, which could be explained with Governmental debt) leads to making a suggestion that money laundered by investors of the developing countries do not come back to these countries and do not stay in offshore jurisdiction, but are sent to the developed countries, i.e. Germany, UK. (Figure 3)

Figure 3: *Capital Flight (Smith, 2011)*



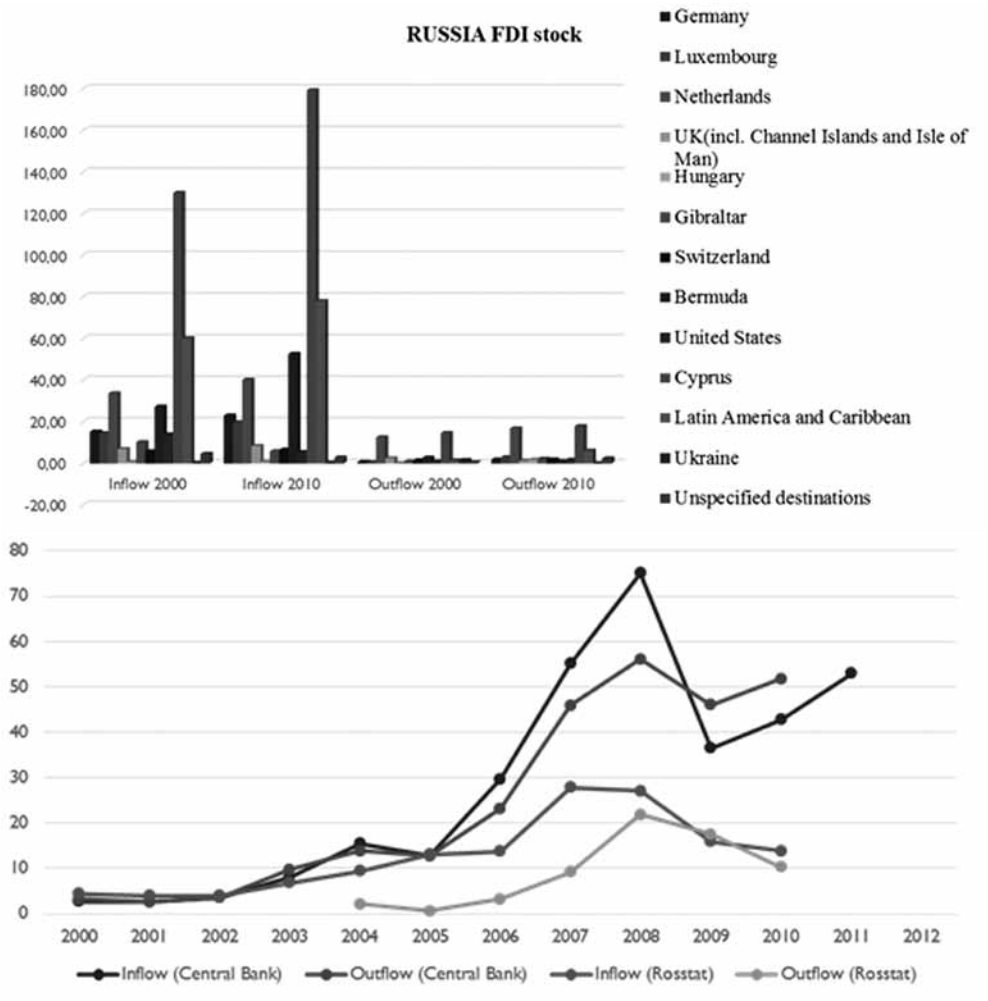
3. Developing countries

In developing countries, offshore investments also depress tax revenues. However, such investments improve efficiency of the assets protection, increase not taxable base, and profits from reinvesting the previously withdrawn capital as seen at the above draw. Reinvestment of offshore assets also raises investment attractiveness of the developing countries. The more important is that the "locally legal" capital, i.e. acquired as a result of "globally illegal" activities (corruption, insider trading, criminal offenses in the developed countries), can obtain legal guarantees of property rights in form of offshore investment. The owners of these investments gain an opportunity to appeal to independent judi-

cial institutions for resolving property disputes, which are not dependent on the local authorities. That is the offshore investments from the developing countries are invigorated de-facto by any authorities.

These conclusions are observed comparing FDI stocks and FDI cash flow data in Chart 4 (for Russia, additional data could be found in Appendix): if the developed countries allocated their FDI in the same developed countries or new emerging markets, the developing countries put their FDI in offshore centers: to hide them away from own authorities and own population. The same concerns FDI cash flow: it's negative for the developed countries, because of their capital export to gain new markets and positive for the developing countries: so-called the «returning» laundered capital, which is times less than exported to FDI capital.

Figure 4: *Russia FDI stock and flows (Kuznetsov, 2012)*



To make things «worse» in disclosing the details of transactions statistical data from the developing countries usually lack of transparency or artificially ambiguous transforming the problem their adequacy to famous Schroedinger cat paradox: half alive, half dead. For FDI example, there are two official sources statistics in Russia (Figure 4). Bank of Russia estimates FDI figures by using balance-of-payments data. As a result, it includes all forms of FDI. Its statistics are the source for the FDI data for Russia in UNCTAD's FDI database (though UNCTAD usually receives preliminary data for the latest year and updates it only in subsequent reports). However, the Bank of Russia's data lack detailed information on the sectorial structure of FDI. The Federal State Statistics Service (Rosstat) collects data from companies and publishes detailed information (since 2005). However, its data do not include information for some countries and industries because the level of transparency of some Russian MNEs is inadequate. The differences in times put under the question robustness of their integrity, especially comparing them to data collected from national statistics bureaus of host countries. If in Cyprus in 2010 outflow was 120,09; 13,15; 3,61, that is actually from 120 US$ bln only 3,6 US$ bln landed in Cyprus, then in Germany - vice versa 0,11; 7,44 and 2,93 or in Netherlands 12,40; 24,11; 0,45. (Figure 4) It means that capital nominally forwarded to Cyprus goes to alternative destinations, Germany is bad choice for money laundering, i.e. to cap «invoices« extra funds had to be transferred from other sources to fill the gap. The Netherlands illustrates its position as corporate holding best place - nominal transfers are not supported with actual capital inflow to the country.

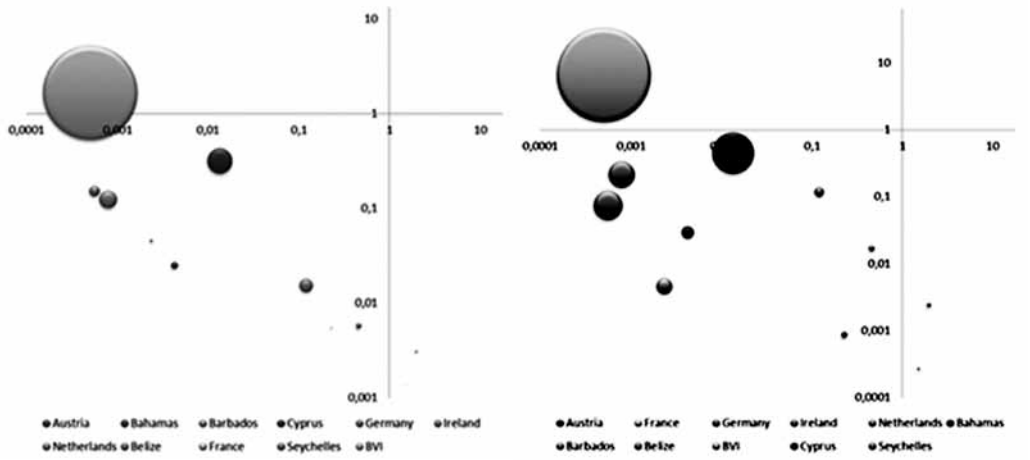
4. Comparison of developed and developing countries

The developed countries apart from gaining advantage of inward outer financial resources extensively utilize tax loopholes while shifting profits to low-tax jurisdictions. The well-known example of the "double Irish, Dutch sandwich" scheme has been used by Google, Apple, Amazon, Facebook and Starbucks. In such cases an Irish holding company gain rights to sell advertising (Google's revenues) via its subsidiary, but between them established a Dutch company, which collects royalties. This scheme allows the Irish operator pay zero tax in its tax shell in Bermuda or the Cayman islands (Yahoo) and also, by using the Dutch sandwich, to avoid Irish withholding taxes. The data from the Report for Congress in January 2013 by Chief economist Jane G. Gravelle also provide comparison of US profits generated in tax havens with their GDP. "In three of the islands off the U.S. coast (in the Caribbean and Atlantic) profits are multiples of total GDP. In other jurisdictions they are a large share of output. These numbers clearly indicate that the profits in these countries do not appear to derive from economic motives related to productive inputs or markets, but

rather reflect income easily transferred to low-tax jurisdictions". (Gravell, 2013) If US Company Profits Relative to GDP in G-7 countries has the weighted average 0.6%, then in the Netherlands - 4.6%, Luxembourg - 18%, Bahamas - 43%, Bermuda - 646%, British Virgin Islands - 355% and Cayman Islands - 546%

So far, the developed countries gain two advantage-"free" outward financial resources and mechanism for tax optimisation. Oppositely the developing countries drain their money supply and tax revenue both together.

Figure 5: *FDI capital transfers and trade based transfers normalized to GDP of the host countries (Federation, 2013) (The World Bank, 2013)*



Utilizing the data of Central Bank of Russia, the drawn Figure 5 illustrates investment (FDI) capital (direct and portfolio investments) flows and trade based transfers normalized to GDP of the host countries. These figures clearly demonstrate abnormal distribution of funds transfers between offshore centres (Cyprus, BVI, Barbados, and Seychelles) and the developed countries (Austria, Germany, the Netherlands). Such way of presenting let outline the destination of "suspicious" transactions' destinations as graphical indicators for gravitational (Walker) money laundering framework.

5. Conclusion

Analysis of the presented data in capital flight, FDI stocks, the long lasting regulatory efforts to prevent money laundering or cleptocracy assets allocation combine together complex socio-economic task, which reminds in some way the famous Copenhagen interpretation (introduced by Niels Bohr in 1920) of coherent superposition in quantum mechanics and the famous Schrödinger's cat (suggested by Erwin Schrödinger in 1935) living in the box with radioactive

material, hydrocyanic acid and a Geiger counter for detecting radiation. In this imaginary experiment the cat in the box could not be observed, and therefore it is hard to be said whether it was alive or dead. It's sort of superposition of life and death simultaneously. In the same manner they may say that, when cash flow is observed, its attribute (legality) is forced to take one state or another (licit or illicit), oppositely it's veiling with offshore secrecy then illegal financing becomes both alive and dead at the same time. Multiple sources of capital from heavy crimes to white collar kickbacks mixed with the legal funds together with the vested interests of key players: illegal capital businesses, corrupt authorities and financial institutes put under the question traditional ways of regulations.

There're three major findings of the made analysis. Firstly, balance of interests of the major stakeholders (authorities, transnational corporations and financial institutes) in developed and developing countries does support offshore investments both inward and outward. Secondly, referencing to volumes of trade and financial transactions, the developing countries are mostly donors, contrary to some of the developed countries or their dependent territories, some of which are recipients of offshore FDI. Thirdly, withdrawal of financial resources from the developing countries degrades their business and investment infrastructure, detoriates social capital and keeps corruption growth up.

But still, there're a lot of unsolved problems for further investigations. Is there any upper limit of the withdrawal of capital to the offshore jurisdictions from developing countries, which inevitably would lead to social collapse or disorder? How profitable are cash flows from offshore jurisdiction and allocation of offshore assets on correspondence accounts for developed countries' government.

Flight capital and money laundering still imply heavy costs on societies, which incudes in direct expenditures on AML, collateral damages for the society: a loss of privacy, use of common goods by criminals (transportation, education system, health care, legal institutes), economic damages: increases costs for using international financial system and discrimination in trade and co-operation.

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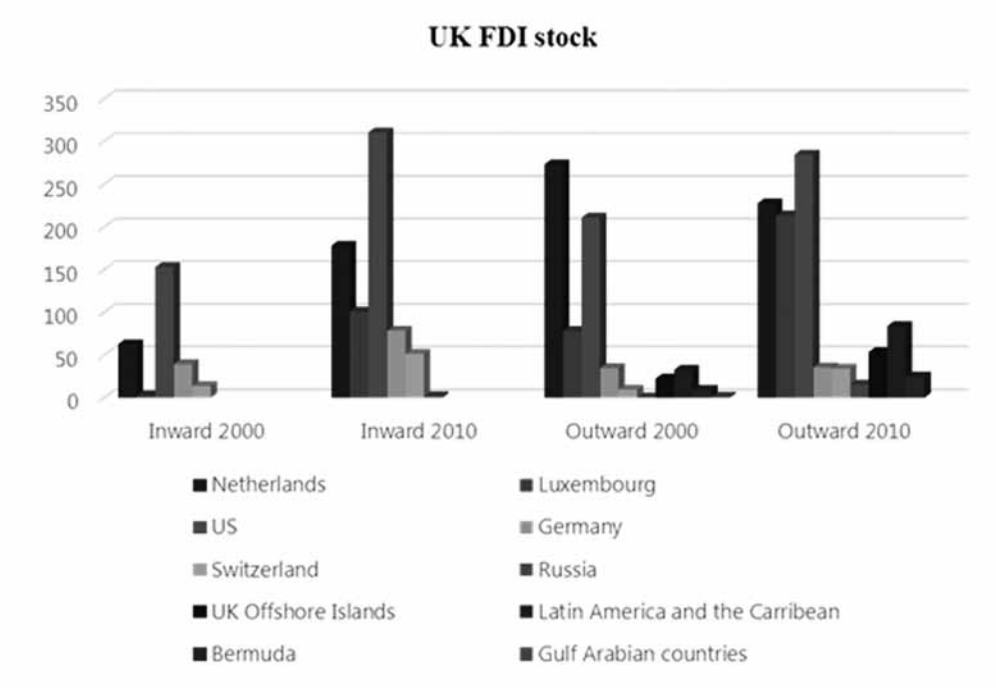
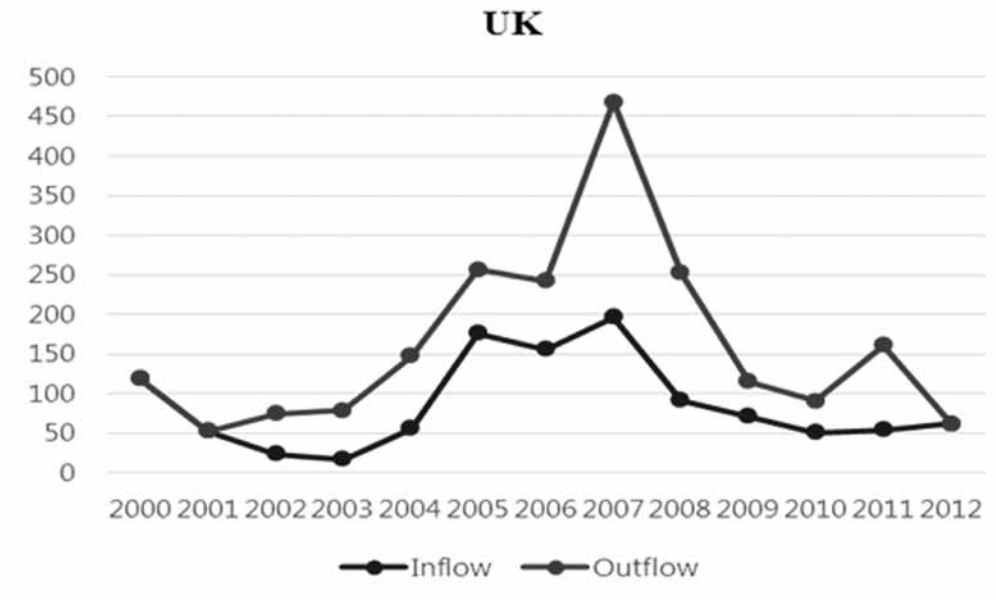
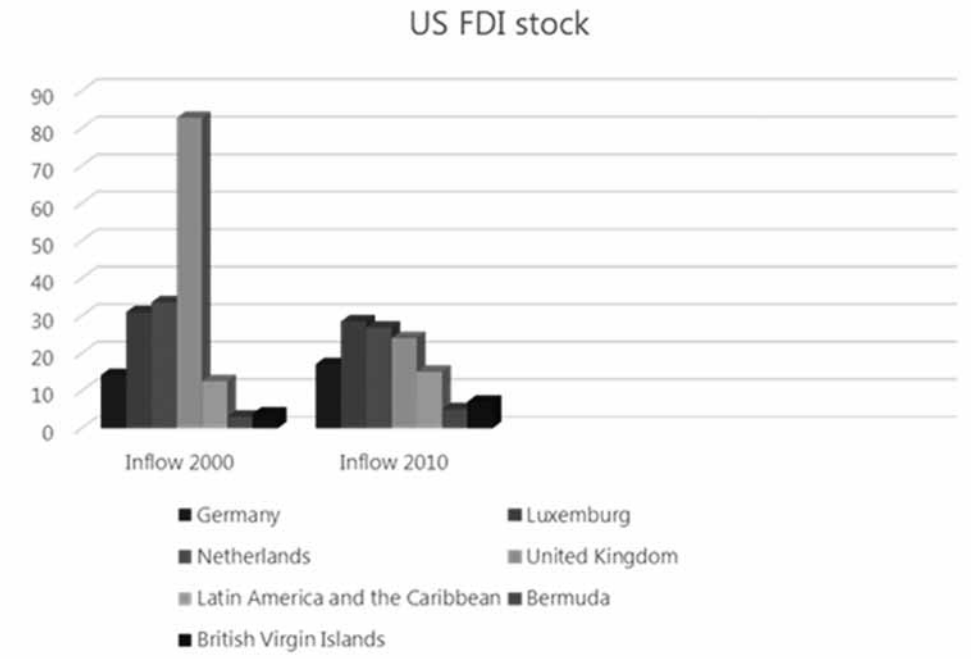
Paper received: May 15th, 2014
Approved for publication: June 1st, 2014

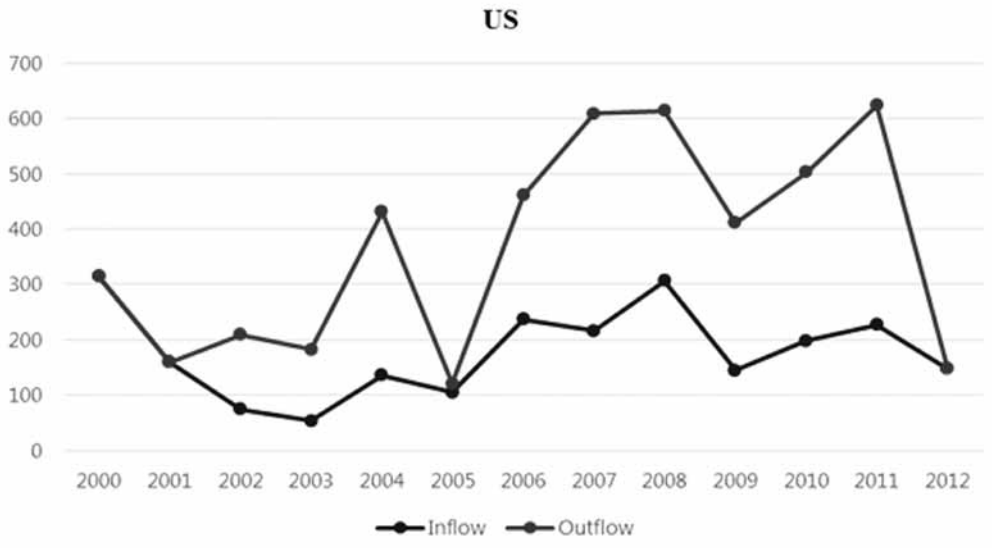
Rad primljen: 15. maj 2014.
Odobren za štampu: 1. jun 2014.

APPENDIX (Driffield, Lancheros, Temouri and Zhou, 2012) Kornecki, 2013) (Kononov, 2012) (Guglger and Tinguely, 2010)






US FDI stock
90
80
70
60
50
40
30
20
10
0
Inflow 2000
Inflow 2010
Germany
Luxemburg
Netherlands
United Kingdom
Latin America and the Caribbean
Bermuda
British Virgin Islands


US
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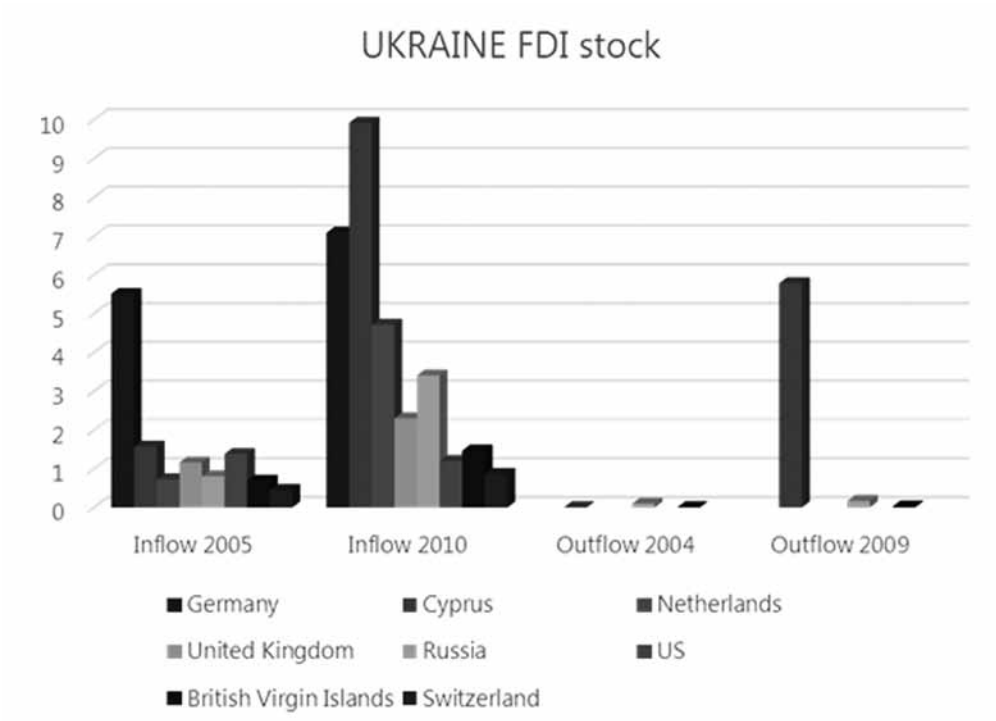
2012
Inflow
Outflow


UKRAINE FDI stock
10
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8
7
6
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4
3
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1
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Inflow 2005
Inflow 2010
Outflow 2004
Outflow 2009
Germany
Cyprus
Netherlands
United Kingdom
Russia
US
British Virgin Islands
Switzerland


UKRAINE
14
12
10
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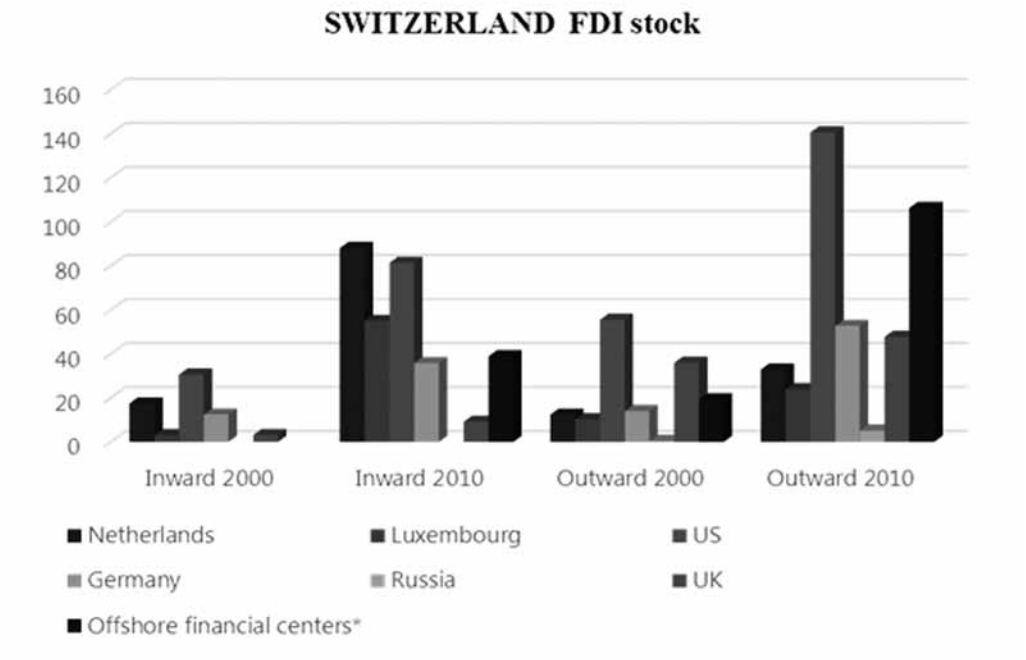
SWITZERLAND FDI stock
160
140
120
100
80
60
40
20
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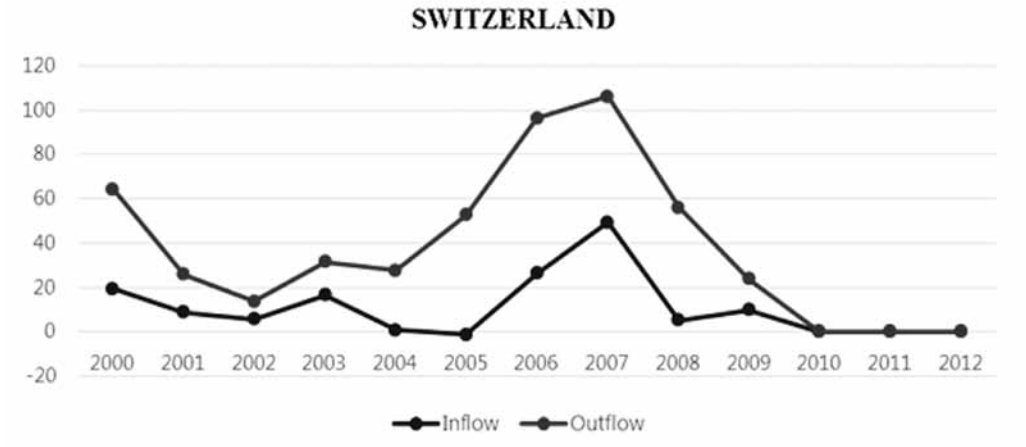
Inward 2000
Inward 2010
Outward 2000
Outward 2010
Netherlands
Luxembourg
US
Germany
Russia
UK
Offshore financial centers*


SWITZERLAND
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2000
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2010
2011
2012
Inflow
Outflow

Anna Stepuk,
Viša ekonomska škola, Moskva, Rusija

OFŠOR INVESTICIJE – CUI PRODIS? ŠREDINGEROVA MAČKA U OFŠOR FINANCIRANJU: I ŽIVA I MRTVA

S a ž e t a k

Trendovi direktnih stranih investicija u ofšor poreskom raju upoređeni su sa naporima i efikasnošću regulatornih vlasti za sprečavanje pranja novca. Na osnovu raspoloživih podataka konstatovano je da je trenutna pozicija u ofšor FDI / DSI, u isto vreme živa i zvanično mrtva, održavajući balans interesa glavnih zainteresovanih strana: korporacija, vlasti i finansijskih institucija koje podržavaju daljnje ofšor investicije. Analiza je izvršena na osnovu količine trgovine i finansijskih transakcija između ofšor centara, razvijenih zemalja i zemalja u razvoju. Posledica povlačenja sredstava iz zemalja u razvoju je degradacija društvenih kapitalnih sredstava financiranja i pružanje podrške rastu korupcije.

Ključne reči: FDI / DSI direktne strane investicije, pranje novca, ofšor finansiranje, ofšor investicije, poreski raj

Asie Tsintsadze[*]
Lilit Meloyan-Phutkaradze[**]

UDC 349.3(479.22)
Original scientific paper

BUSINESS AS A COMPONENT MECHANISM OF SOCIAL PROTECTION OF POPULATION

The social protection of population is a main direction of activities of any government. In modern period social protection of population is proceeding with the help of social policy. Mainly social policy implementation is done by the government. Currently in Georgia the main mechanism for social protection is social insurance, which is carried out by the Ministry of Labor, Health and Social Affairs. In Georgia social subsidy agency is responsible for the health insurance and medical programs. Under condition of marketing economy the limitation of interference of government in economy decreased means of social protection. In the modern conditions social protection mechanism should be developed jointly by the government and private sector measures. It becomes necessary to increase the role of business in the social protection of population, which with the difference of charity requests more social responsibility. The most important goal of any government is the effective employment of its population. The research objective is to explore the role of business in the social protection; to set the problems and find the concrete proposals for solving these problems. It is clear that operation of social policy measures can be entirely imposed on the business. As well as the business can ensure effective functioning of the employment level and thus contribute to the development of their own businesses as well as the social policy of government.

This paper formulates proposals is direction of the interaction of business and government, their activities for effective social protection of population.

Key words: social insurance, social policy, social protection

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1. Introduction

The important issue of business development in modern period is the social responsibility of business. The achieved success in all spheres of public life of developed countries showed that, despite the evaluation by theoretical aspects of market economy, it is considered as basis of social class differentiation of society, that the market economy divides people by "rich" and "poor". The market economy by its nature is "the social" and therein lies all mechanism, the proper use of which serves the interests and needs of people.

The current situation in the world practice have undergone all countries and there is strong sense that it is impossible to develop the national economy, to gain competitiveness in the world market, to increase investment attractiveness, if all politics is not directed to improve the social situation of human capital.

2. Chapter 1. visions of business in social responsibility

2.1. European Models of Business Social Responsibility

The governments of UK and EU discuss the social responsibility of the business as one aspect of good corporate management, their voluntary activities. But in some cases, is the requirement for business to reallocate resources in terms of social, in the form of compulsory system of the value. But the development of business, its successful activity depends largely on in the existence of socially ensured society, so social responsibility will be or not the voluntary action, the business is obliged to answer the echo from the society.

If we will analyze all factors of business activity: entrepreneurial skill, capital, the land, the labor tools and labor force - it is easy to guess that, all factors will be motionless without the labor force. The formula for business success is the connection of producing factors with the person, which appears in this formula as not only the labor force, also produced goods and user of services. According to this logic, the social politics should not be the burden of business, in the social policy implemented by the state the business should be socially responsible for employed people.

According to the European commission, the social responsibility is the concept, and with the help of it, the company makes the integration of social responsibility and environmental protection liabilities of its activities and in the relationship with the partners" (Communication, 2011) (COM, 2001, p. 366)

2.2. American model of business social responsibility

"According to view of the Nobel Prize Laureate in the field of Economics Milton Friedman: the businesses have only one responsibility – to use its resources in order to bring the profits, as long as these activities fit into the rules of the game." (Friedman, 2006, p. 111). So according to the Friedman's view, the role of the company is to earn the money and not in saving parliament or other humanism. Corporative American model of the social responsibility established in 19th century. Due to the peculiarities of American entrepreneurship, which based on maximum freedom of subject, many field of society relations stay as self-regulated. Among them the labor relations - employee and employer (bilateral agreement), and voluntariness of medical insurance. But business participation mechanism is sophisticated (trough corporative funds) in social support. To solve different social problems by business expense (sponsoring of pension provision for staff, insurance programs and professional education). If the American model the designation of corporative social responsibility discusses the responsibility to shareholders and profitability, the European model places responsibility on it in connection with the worker's and local society unions. The charity projects is not so popular in Europe as in USA, which explained by more substantial tax burden.

2.3. Theories of business social responsibility

Formulated two opposite theory about social responsibility of business: according to corporative altruism, the companies are obliged to improve the quality of citizens life (use in Japan), and on the others hand the theory of corporative selfishness (Friedman, 1970, p. 32-33; p. 122-126) argues that, the business is obliged for increasing the incomes of shareholders, there are many intermediate approach between these two different positions. One of them is "the theory of discreet selfishness", according to this theory the company reduces the current profit by the social expenses and charity, and creates favorable social environment to get high profit in future. Among the followers of these two theories still is being acute polemics. The followers of "corporative selfishness theory" are calling this theory "destructive" which is built on lies, because is based on "suspicious and erroneous assumptions", which leads to the growth of the company's expenses and the deterioration of activity results. The followers of less radical approaches were trying to find the place of social corporative responsibility in the theory of Friedman. For example, Douglas Denull argued that, the concept of Friedman detects principles of corporative social responsibility, but in somewhat limits the interests of shareholders, in order to improve it, he offers the rulers of corporation to sign the special agreement for maximization of profits with shareholders. The discussion about social responsibility of business against the

background of this theory might be a little early to be considered in the reality of Georgia, but if we recall the business history of the past century of Georgia, the institute of Georgian charity and philanthropy has quite serious tradition. In spite of this, the social and altruistic projects confined to simple sponsorship, often by promotional campaigns, there is quite "discreet egoism", but these campaigns mainly have non-systematic and non strategic nature. As for the funds and special altruistic NGOs initiated by the business, in this respect none of them is not distinguished particularly active. It is considered, that the social responsibility of business needs strengthening and increasing.

2.4. Business social responsibility in Georgia

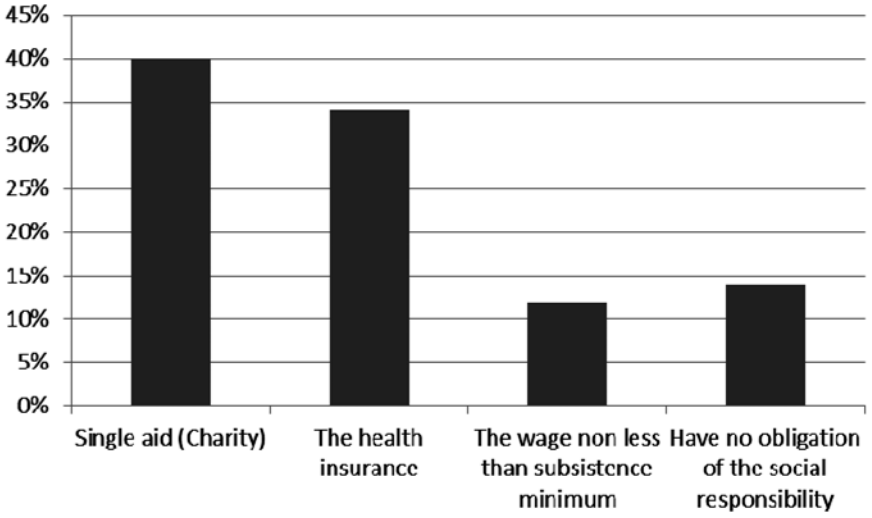
According to the poll of Georgian strategic research and development center, 29% of businessmen could not explain the social responsibility, and the others the social responsibility discuss as the responsibility against the employees, payment of taxes, business transparency. Only a small part of businessmen are thinking, that the social responsibility implies funding of social sphere, care for society, to solve the problem of unemployment. Despite the fact, that the large part of Georgian companies the social responsibility understand narrowly and straightforward, a small part of them are still trying to input the social responsibility components in their activities. For example, "Wissol group" has the position of social responsibility manager. The social responsibility for them is the care for "market and customers, employees, health care, environment protection and business-partners", but in practice focused on transport, construction of churches and takes care of socially vulnerable children.

There is a great difference between the social responsibility of business of western companies and the social responsibility of business in Georgia, because the social responsibility in Georgia is considered as single action, and the western companies are implementing long-term social projects. Single charity cannot create feeling in the society, which once received social aid in case of need reoccurs.

The social responsibility of any organization has an important advantage for potential buyer. If the charity projects allows to customers to share emotional mood, the social responsibility – is the effective strategy of company working for mass market, which promotes the realization of corporative values and the extraction of customer's loyalty. In order to study the social responsibility were surveyed 42 companies in Georgia. The poll was held with the groups of individual interests, from the received answer determined, that 65% of employed people are not socially protected. In case of different directions of the social responsibility we decided to examine what kind of social responsibility is implementing by business representatives, in order to obtain full information about current situation. The question about the social responsibility of them, the

most of them (40%) preferred single aid due to the charity, the next was health insurance (34%), not only with the participation of the employer, also including the employee, in third place were the businessmen, which assume that, the minimum wage of employee should not be less than the subsistence minimum (12%), however they named the reasons ,that they are not able to implement the payroll changes in this direction, and 14 % considers, that they have no commitment about the social responsibility.

Figure 1: *The social responsibility measures of business representative*



As we can see, the business has not yet comprehended the role of human capital to make their activity successful. Because the business sector in Georgia is still weak, they have to work under serious risk factors and uncertainty. Therefore, the expectation of social responsibility of business from powerful companies working in rich and stable economy is fair, but it is unfair to impose the same requirement for the private sector in developing country like Georgia. The additional demand of the social responsibility of business may be reduce the viability and competitiveness of Georgian companies. The studies about research of private polls and abovementioned organizations showed, that in Georgia the social responsibility of business for the society somewhat is known. The large part of businessmen properly estimates good corporative importance of citizenship, but the social responsibility mainly represented by the charity and do not intersect main priorities, which connected with the creation of jobs. Zarecki A.D formulates internal and external social responsibility and considers that internal social responsibility is at first the event of relationship with the personnel:

- The safety
- Payment of stable wages

- The medical and social insurance of employees;
- To improve the qualification of the staff due to training program;
- To help in critical situations;
- The external social responsibility includes:
- The Sponsorship and the charity;
- To participate in ecological programs of the state, region and municipality;
- The society relations in crisis situation;
- To output of the quality products. (Zarecki, 2013, p. 92)

Furthermore, the measures of social responsibility can be grouped by mandatory and responsibility forms. The mandatory forms are: the payment of taxes, the implementation of legislation, the social protection of employees, fulfilling the consumer's expectations, to care for ecological safety. The responsibility forms are: the charity, the funding for education.

All measures directly or indirectly directed to improvement of social condition of the population, and healthy society is the key to success of business. To prove this we use the opinion of the founder of corporation "Hewlett Packard "David Packard: "many consider that the goal of any company's existence is to earn money. Despite the fact, that the money is important result of activity, we came to the conclusion: the company is the group of people, collectively solve the problem which unable to solve separate persons- contributing the society life". Such attitudes towards the corporative social responsibility in each country was proceeded the development of the charity, which was discussed by two aspects: at first, when rich person from his incomes was assisting the recipient, and second, when the commercial organizations transfer incomes to charity funds. In first case, we are dealing with purely altruistic actions, and second is corporative charity. The goals of any commercial organizations are to gain profit, which is the result of economical effectiveness of activity. So in the charity implemented by commercial organizations must be at some doses profit-making motive, otherwise the connection between charitable activity and commercial organizations can be interrupted.

3. Conclusion

Corporative responsibility in Georgia is in embryonic stage. Nowadays operates 57 charitable funds, but social problems are still the high quality, one reason for this is, that 1 650 000 socially vulnerable person standing face to face not very large – scale of business activity. Here is one of the principles: "the expense of business increases, the condition of vulnerable people doesn't improve" so charitable activity despite the tax benefits: after deduction from

gross income to deduct of 10% of remaining amount, still cannot become corporative charity. The reason must be sought in socio-economic conditions of the country. Namely, due to the low level of life the business could not received the reverse effect from charitable activity, which can received the business structures of developed countries. In order to alleviate the problem we consider it necessary the joint participation of the business, the state and the society for improvement of social condition. In this direction the government should limit social assistance for the people, which are capable to working and in return to offer employment opportunities, and should facilitate the business structures, besides the society should understand the reduction of social assistance and to pay the main attention for increasing the formation and the use of finances of charitable funds, transparency of spending control, because the corporative social responsibility increases the traditional understanding of business responsibility. This is not only economical institute, its activity goes beyond boundaries of specific companies and impacts on society members, the state, and is involved in resolving of social issues.

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Paper received: May 15th, 2014
Approved for publication: June 1st, 2014

Rad primljen: 15. maj 2014.
Odobren za štampu: 1. jun 2014

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PRIVREĐIVANJE KAO DEO MEHANIZMA DRUŠTVENE ZAŠTITE STANOVNIŠTVA

S a ž e t a k

Društvena zaštita stanovništva je jedan od glavnih pravaca u naporima svake vlade. U modernim vremenima društvena zaštita se odvija zahvaljujući socijalnoj politici, a sprovođenje ove politike se vrši od strane vlade. Trenutno, u Jermeniji, glavni mehanizam društvene zaštite je socijalno osiguranje, koje se sprovodi od strane Ministarstva rada, zdravlja i socijalne politike. U Jermeniji, agencija za društvene subvencije je zadužena za zdravstvenu zaštitu i medicinske programe. U uslovima tržišne privrede, gde je uticaj države ograničen, došlo je i do smanjenja sredstava društvene zaštite. U modernim uslovima mehanizmi društvene zaštite bi trebalo da se razvijaju saradnjom države i privatnog sektora. Postaje neophodno da se poveća učešće privrede u društvenoj zaštiti stanovništva, koja bi sa više dobrotvornih davanja bila i društveno odgovornija. Najvažniji cilj svake vlade je efikasno zapošljavanje stanovništva. Cilj istraživanja je da se ispita uloga privrednika u društvenoj zaštiti; da se definišu problemi i ponude konkretne mere za njihovo rešavanje. Jasno je da se sprovođenje društvene zaštite može u potpunosti staviti na teret privrednika, kao što privreda može osigurati efikasno funkcionisanje zapošljavanja i na taj način doprineti razvoju njihovih preduzeća i socijalnoj politici države.

Ovaj rad formuliše predloge u smislu saradnje privrede i države i njihovih aktivnosti ka efikasnoj društvenoj zaštiti stanovništva.

Ključne reči: socijalno osiguranje, politika društvene zaštite, društvena zaštita

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UDC 339.972:620.9(4-672EU:497.5)
Original scientific papaer

MANAGING CROATIAN ENERGY LEGISLATION WITH EUROPEAN UNION ENERGY PACKAGE

Since Croatia started acquiring the status of a candidate for European Union (EU) membership it has been adjusting its legislation with EU requirements. Moreover, Croatian electricity sector is facing a numerous challenges and significant changes in legislation are needed in order to successfully complete the process of market liberalization. The biggest challenge in Croatian electricity sector is to achieve a 20% share of renewable energy sources (RES) in gross final energy consumption by the year 2020. Croatia currently has about 15.1% of RES in gross final energy consumption and one of the ways to achieve its goal is to increase production capacity from renewable energy sources in accordance with energy consumption. Furthermore, the opportunities for establishing economic growth through innovation and a sustainable competitive energy policy have been very well recognized in Croatia. Therefore, the overall investments in energy production from renewable sources will have significant impact on growth and employment in rural parts of country which is in line with EU RES strategy.

Key words: managing,energy strategy, renewable energy resources

1. Introduction

Croatia, as a member of the European Union (EU), is committed to align its energy sector with EU objectives, and to adopt its goals with EU Directive 2009/28/EC on the promotion of the use of energy from renewable sources. The Directive requires EU member states to produce a pre-agreed proportion of energy consumption from renewable energy sources (RES)such that the EU as a whole shall obtain at least 20% of total energy consumption from RES by the year 2020. Moreover, it reinforces the 20-20-20 agenda of the EU, e.g. 20% reduction in greenhouse gas (GHG) emissions, 20% share of renewable energy in gross final

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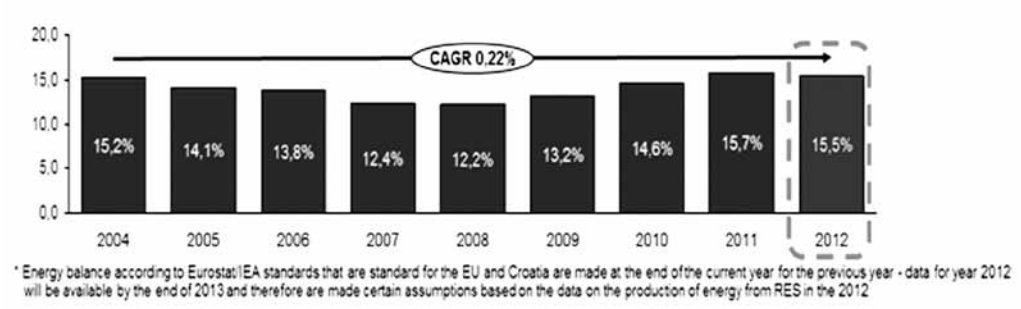
consumption, and 20% reduction in energy consumption and 10% share of renewable energy in transport.

Considering EU objectives and large investment potential in developing energy markets RES isin the special focus of almost everygovernment. Therefore, most of the EU governments are trying to implement different actions in order to reach EU goals. However, if we analyzeCroatian share of RES, in gross final consumption in the year 2012,we can see it is around 15.1% (Figure 1). For that reason, Croatian plan is that remaining 4.9% of the 20% target shareshall be produced from newly constructed renewable energy plants that Croatian government is supporting.

Figure 1: *Share of RES in gross final energy consumption in Croatia (http://epp.eurostat.ec.europa.eu)*



2. Croatian energy strategy and implementation challenges

Croatia nowadays imports nearly 30% of electricity and 75% of primary energy, and it is highly dependent on energy imports which, in the case of growth of energy prices on the international market, have far-reaching consequences for the competitiveness of the Croatian economy. Therefore,Croatian Energy Strategy (CES) was adopted by the Croatian Parliament in 2009[1]setting the goal of building at least 2400 MW of new thermal power plants, 300 MW of large hydro, and 1655 MW from renewable sources by the year 2020.Furthermore, after adoption of CES in the year 2009, Croatian government adopted one more strategic plan and set the goals in renewable energy sources plan (RES) of electricity production (Table 1). CES wants to retain at least a 35% share of RES, which includes large hydro power plants (excluding pumped storages) by the year 2020, with the ultimate target of reaching at least a 20% share of RES in gross final consumption. We see that hydro power plants accounts almost 30% of the RES electricity balance, but we need to consider that even hydro energy costs are low, the down side of hydro energy production is consequently large dependence on hydrological conditions.

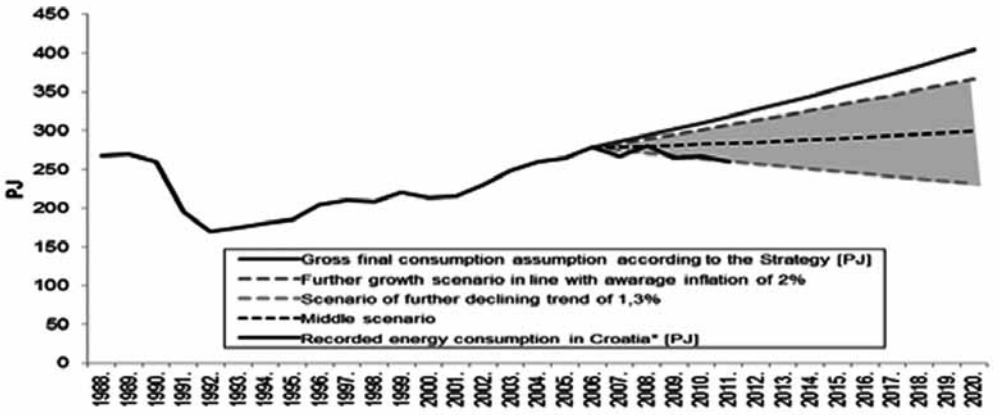
[1] Croatian Energy Strategy (CES), source: http://narodne-novine.nn.hr

Table 1: *Plan of electricity production from renewable energy sources by the year 2020. (http://www.mingo.hr)*

Renewable energy sources	Megawatts
Wind power plants	1200
Solar power plants	45
Small hydro power plants	100
Biomass	140
Biogas	110
Municipal waste	40
Geothermal power plants	20

From Table1 it is clearly seen that Croatian government based its development strategy ofRES mostly on wind plants (72.5%). However, this energy strategy is based on the assumption of gross final energy consumption with annual growth of 2.7%, which is not in accordance with the current decline in consumption of 1.3% per annum, whereas gross final energy consumption in the year 2011 reduced by 2.5% compared to the year 2010 (Figure 2). Moreover, in the period from 2006 to 2011 a final energy consumption reduction trend was observed at an average annual rate of 1.3%. Therefore, as it is not likely that the predicted consumption growth will occur, and the given estimations should be revised.

Figure 2: *Trends in Croatian final energy consumption (http://www.eihp.hr/hrvatski/projekti/EUH_od_45/EUH11web.pdf)*

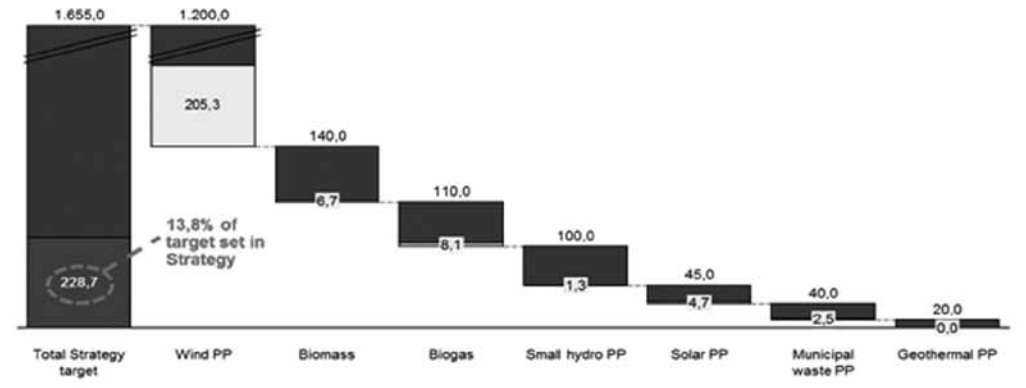


Revisingpredictions on consumption growth has a direct impact on the goals of RES which also impacts installed capacity targets by the year 2020, and construction of an incentive system to support implementation of new RES.

3. Analysis of Croatian current situation

Now days, three year after Croatian Energy Strategy was adopted, we can see that it has very low implementation rate regarding renewable energy sources projects. Progress of newly constructed RES projects towards targets set in the Energy Strategy is only 13.8% (Figure 3). Poor implementation of RES projects is a consequence of legal, technical and financial barriers, as well as lack of cooperation between institutions which all contributed to making the administrative procedure for RES to become lengthy,with inherent uncertainties and risk for prospective investors. Also, due to specifics of the Croatian electricity gridit is questionable whether the strategy goals are realistic.

Figure 3: *RES projects in March 2013 (MW) that are connected to the grid by types in relation to the objectives defined by the Croatian Energy Strategy (http://oie-aplikacije.mingo.hr/pregledi/)*

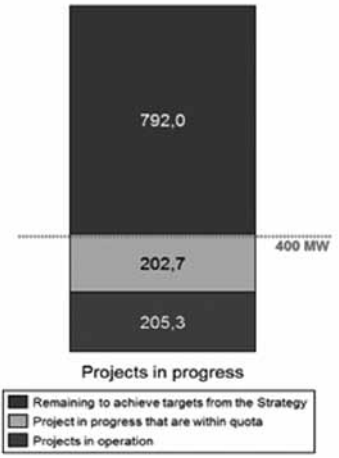


3.1. Wind power plants

Croatia has a high potential for the realization of wind power. However, due to the lack of secondary regulation power in the system the capacity is limited to 400 MW, which will be achieved by the year 2015. In the Registry of renewable energy projects and cogeneration (OIEKPP Registry)[2] there are 4,267 MW of registered projects in various stages of implementation. The current technical potential of the transmission system enables connection of 400 MW without loss of system stability. For this purpose a quota system was established for wind energy projects.

[2] OIEKPP Registry, source: http://solarserdar.wordpress.com

Figure 4: *Overview of wind power projects in progress March 2013 (MW) (http://oie-aplikacije.mingo.hr/pregledand http://www.hep.hr)*



The quota of 400 MW consists of 205,3 MW of wind power plants already in operation and 202,7 MW for which implementation (commissioning) is planned in 2014, and they are all within the quota (Figure 4). Solutions for expansion of secondary regulation capacity in the network are currently being developed to ensure the successful implementation of new wind power plants, but timeframe for expansion is not yet known.

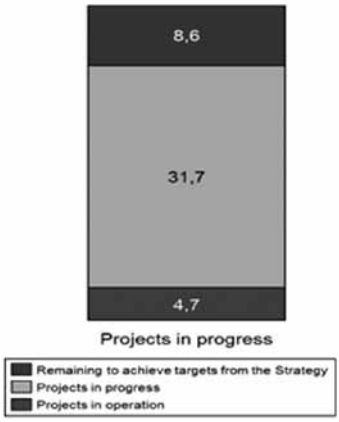
3.2.Solar power plants

There are 4,7 MW of solar power plants (photovoltaic) operational in Croatia and in the near future connection of additional 31,7 MW is expected. In the OIEKPP Registrythere are 340 registered projects with a total installed capacity of 86,7 MW in various stages of implementation. There are no technical limitations to the growth of the number of connections to the network. Currently the only limitation on solar power plants is the annual quota that is defined by the Croatian energy market operator (HROTE)[3], formed due to limitations in the resources available for the payment of incentives. From the year 2007 to 2012 quota for integrated solar power plants was 1 MW while 7 MW was contracted. Forthe year 2012quotas for integrated solar systems (installed on buildings) were 10 MW and 5 MW for non-integrated. For the year 2013 quota for integrated solar systems is set at 15 MW and 10 MW for non-integrated. All quotas for integrated systemshave been filled. However, since there are only 4,7 MW of projects currently in operation, it is necessary to change the way of calculating fulfilment of quotas (currently it is calculatedas projects that have signed a contract with HROTE, and it should be calculated as project that already started operation).

[3] HROTE, source: http://www.hrote.hr

Furthermore, given the small annual energy production and the benefits of distributed generation, there are no obstacles to a large increase of targets.

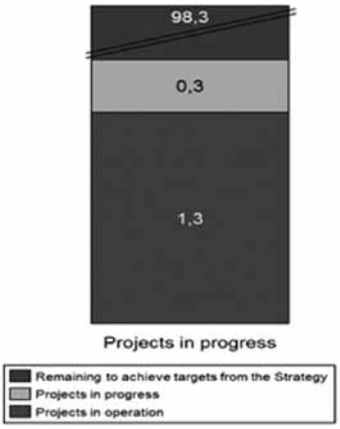
Figure 5: *Overview of solar power plants projects in progress March 2013 (MW) (http://oie-aplikacije.mingo.hr/pregledi andhttp://www.hrote.hr)*



3.3.Small hydro power plants (SHPP)

There are currently1,3 MW of SHPP operational in Croatia, while additional 0,3 MW is under construction. However, a number of key permits for project initiation "the previous energy approvals"have expired. Currently there are only 3 'previous energy approvals' which are still valid, along with 5 'energy approvals' (a permit for plant construction in advanced implementation stages, subsequent to location permit), for a total capacity of 5,4 MW. OIEKPP Registry has 63 registered projects with a total installed capacity of 128,8 MW in various stages of implementation, but expected realization is low although there are no technical limitations for connection to the grid.

Figure 6: *Overview of small hydro power plants projects in progress March 2013 (MW) (http://oie-aplikacije.mingo.hr/pregledi and http://www.hrote.hr)*

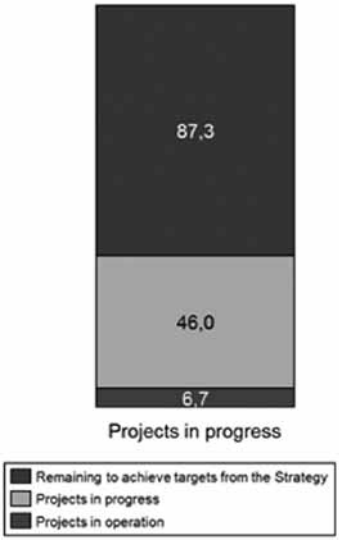


Part of the areas viable for construction of SHPP is covered by the Natura 2000 network[4] which complicates construction. In Croatia there is very small interest for small hydropower plants and the implementation of projects is poor due to the risk and long administrative procedures. Furthermore, due to a small number of remaining locations with unrealized hydro potential, it is unlikely that there will be more than 100 MW of SHPP implemented in total.

3.4.Biomass power plants

Currently there are 6,7 MW of biomass plants operational in Croatia, while 46 MW are at an advanced stage of implementation, e.g. have signed contracts for procurement of raw material from Croatian Forestry. A consolidated list of projects from OIEKPP Registry and Ministry of Economy reports contains 102 projects with a total installed capacity of 256,82MW and its needed to say that there are no technical limitations for connection to the grid. According to the issued energy approvals, a realization of 77,5% of the target set in the Energy Strategy can be expected by 2015. Furthermore, given the maturity of the technology a large investor interest is expected. There are also synergies possible with the wood industry for simultaneous generation of electricity and heat from RES. The target goal for biomass plants should be increased.

Figure 7: *Overview of biomass hydro power plants projects in progress March 2013 (MW) (http://oie-aplikacije.mingo.hr/pregledi and http://www.hrote.hr)*

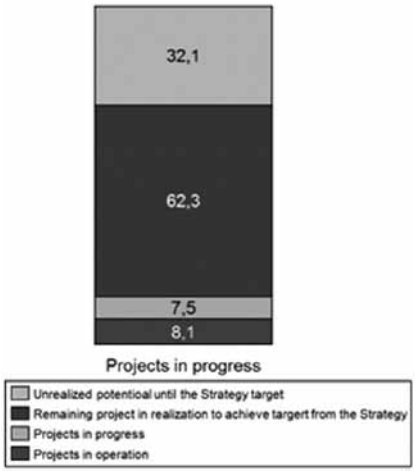


[4] Natura 2000 network, source: http://ec.europa.eu/environment/nature/natura2000

3.5. Biogas power plant

There are currently 8 plantsoperational in Croatia with a total capacity of 8, 1 MW while 4 plants with total capacity of 7,5 MW are in the stage of construction. In OIEKPP Registry there are 51 registered projects with a total installed capacity of 77,91MW in various stages of implementation. There are no technical limitations for connection to the grid for this kind of plants but there's potential depends on the ability of simultaneous delivery of electricity and heat to nearby consumers. Due to high investment costs of biogas plants in the current market, biogas projects are less attractive to investors compared to other sources. So far, investors' interest is not satisfactory to realize target of 110 MW set in the CES.

Figure 8: *Overview of biogas power plants projects in progress March 2013 (MW) (http://oie-aplikacije.mingo.hr/pregledi and http://www.hrote.hr)*



4. Conclusion

After the study of Croatian Energy Strategy and after analyzing renewable resources power plant implementation wecan conclude that certain changes are needed to be implemented in this strategy immediately. In order to achieve the target share of RES in gross final consumption, according to EU obligations, goals of the Croatian Energy Strategy should be revised.

In the time when the Croatian Energy Strategy was made the government has not thought that world economy crisis will effects economy in so big scale. Moreover, projections for the year 2020 were based on stable growth of the economy while the reality was a huge recession in the world. In-depth analysis of barriers in the administrative procedure for the implementation of RES projects should be made. Also, the dynamics of RES projects implementation is not sat-

isfactory. The government should be aware that presumption of grid development to accept the 1200 MW wind power has not been jet achieved. Also, the plants for the production of renewable heat, which are also included the target of 20% RES in EU, do not represent a significant burden on the grid and are not adequately addressed in energy policy. Moreover, the energy production from solar power plants is much cheaper now due to technological progress and is nowadays suitable for mass implementation.

We often witness that investors display huge interest for renewable power plants, while the strategy makersdo not prepare the county's strategy planwell; do not consider maturity of the technologies and the time required for project implementation in the design of the system.The construction of new power plants is essential for Croatia due to high dependence on imports and hydrological conditions, which can vary significantly in the short-term and mid-term. In the long-term RES is the optimal choice for new capacities since it do not depend on fuel costs or disturbances in foreign markets. The strategy has to set development principles according to which Croatia will become an exporter of energy, and its energy sector will become more profitable. At the time finishing this article a new indication are seen that the Croatian government will make new, critical step which will be in focus of achieving Croatian energy independence.

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Paper received: May 15th, 2014
Approved for publication: June 1st, 2014

Rad primljen: 15. maj 2014.
Odobren za štampu: 1. jun 2014

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USKLAĐIVANJE HRVATSKOG ENERGETSKOG ZAKONA SA ENERGETSKIM PAKETOM EVROPSKE UNIJE

S a ž e t a k

Od kada je Hrvatska stekla status kandidata za članstvo Evropske unije (EU) započela je sa usklađivanjem zakonodavstva u skladu sa propisima EU. Osim toga, hrvatski sektor za električnu energiju suočava se sa brojnim izazovima tako da su potrebne značajne promene u okviru zakonodavstva kako bi proces liberalizacije tržišta bio uspešan. Najveći izazov u hrvatskom sektoru električne energije je ostvariti 20% udela obnovljivih izvora energije (RES) u bruto energetskoj potrošnji do 2020. Hrvatska trenutno ima oko 15.1% RES u konačnoj bruto potrošnji energijei jedan od načina da ostvari svoj cilj je da poveća kapacitet proizvodnje obnovljivih izvora energije u skladu sa malom potrošnjom energije. Pored toga, mogućnosti za uspostavljanje ekonomskog rasta putem inovacija i održive konkurentske prednosti u razvoju energetske politike, veoma su priznate u Hrvatskoj. Dakle, ukupna ulaganja u proizvodnju energije iz obnovljivih izvora imaće značajan uticaj na ekonomski rast i zaposlenost u ruralnim delovima zemlje a koja su u skladu sa strategijom EU RES.

Ključne reči: upravljanje, energetska strategija, obnovljivi izvori energije

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UDC 338.242.4(496.5) ; 346.542(496.5)
Original scientific paper

THE SIZE OF THE PUBLIC SECTOR – CASE OF ALBANIA

The government is one of the key players in the economic area of each country. Its impact is evident in all areas, such as political, economic and socio-cultural ones. This impact is measured by an indicator which economists call "the size of the public sector". As government's influence is so significant a question naturally arises: Should the impact of the government be big or small? There are many arguments in favor and against this issue and it is difficult to come to a consensus on the extent of government's intervention in the economy. That is why the purpose of this paper is to present a picture of this intervention in the economic life of our country by connecting this indicator with the budget deficit.

First, we will elaborate the progress of the size of the public sector in Albania and its measurement by various indicators. Secondly, we will compare the size of the public sector in Albanian with the sizes of the public sector of other countries in the region. Finally, we will present the results of a study on the optimal size of the public sector in the economy of a country being analyzed and in terms of our country.

Key words: Albania, Budget deficit, public sector, size

1. Introduction

Throughout his life several times every man faces governmental activities in one way or another, ranging from registration in the register of citizens recording, public school attendance, payment of taxes, employment in the public sector, use of public services as highways, electricity, drinking water, garbage collection, environment, pollution and safety improvement, etc. (Stiglitz, 2000). On the basis of the importance that these activities have in the economic development of a country, they have always been the subject of study by different economists. The public sector has changed over time, by being adapted to the trajectory of economic development.

Historically referring to the government intervention there have been two opposing views belonging to the two main schools of economics. Each side

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supports the positive aspects of a large or small intervention in the economy (Rosen, 2002). Modern theories of public finance do not focus on the fact whether the government should intervene or not, but on the fact that this intervention must be more efficient and serve the economic growth.

The object of many studies in this field have been the reforms for the restructuring of the public sector in order to: reduce inefficiency in the delivery of public goods and services, address the appropriate cost in priority and productive sectors, increase the efficiency of the tax system in terms of structure and tax rates, change the relation between public sector and private sector by facilitating high levels of deficit and public debt, increase the quality of institutions and governance, etc. (Milova, 2012).

The impact of the public sector in the economy of the countries in transition is of particular interest. In these countries the government plays a two-fold role: on the one hand it is the subject of reforms to be adapted to the new structure of the economy and on the other hand it affects the creation of a positive climate for the implementation of economic reforms and other comprehensive reforms in order to accelerate the process of transition.

2. The public sector size in Albania and its measurement

The size of the public sector represents expenses related to institutional integrity of public entities which produce goods or services for individual or collective consumption and make the redistribution of wealth and income to meet the political and economic role and responsibilities of regulation (SNA, 1993).

The size of the public sector can be measured by means of various methods, which do not always give the same result. One method that can be used is the method based on the number of employees in the public administration. This measurement method appears too problematic because the same number of employees does not necessarily mean the same value added in the economy. This is due to the fact that the technologies used in different countries are not the same. The most accurate method for measuring the size of public sector is the method that calculates how much of the added value in the economy during a year is produced by the public sector. This method uses as an indicator the G/GDP which represents the total percentage of public sector expenditure (G) in relation to the gross domestic product (GDP). As according to the expenditure method, GDP is calculated as C+I+G+Nx, it makes sense to measure the public sector contribution to total economic output by total expenditures made by this sector (Rosen, 2002).

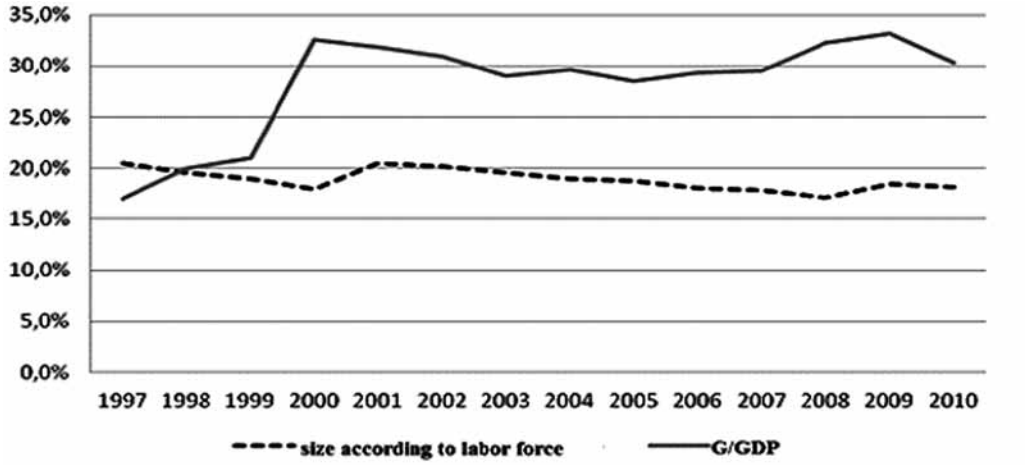
In calculating the size of government by G/GDP method, government expenditure (G) consists of:

- Acquisition (consumption) of goods and services by public administration
- Transfers of income for people, businesses or other governments
- Payment of debt interest

The chart below shows the indicators mentioned above for measuring the size of the public sector, the number of public sector employees in relation to total employees and the most used indicator of government size G/GDP.

In the below chart it is displayed the time series from 1997 to 2010. The interrupted line, show the size of the public sector, measured by the number of employees working in public administration in relation to total employees. It seems clear from the below chart that the level of public sector employees has been stable over the last decade. Only in 1998 the size of the public sector is the same under both methods used to measure it. After this year the differences between these indicators have deepened. The reason of this difference can be explained by the change in the productivity of employees in public administration compared to the private sector. Another reason has to do with the quantity that the wages of public servants constitutes within the total costs. For a country like Albania, where the share of wages in total costs is relatively high, the difference in the number of employees in the public sector, changes in the same direction G/GDP, while the rest of the conditions remain unchanged. This connection is also confirmed from the below chart.

Figure 1: *The government size INSTAT, 2013; (MoF, 2013)*



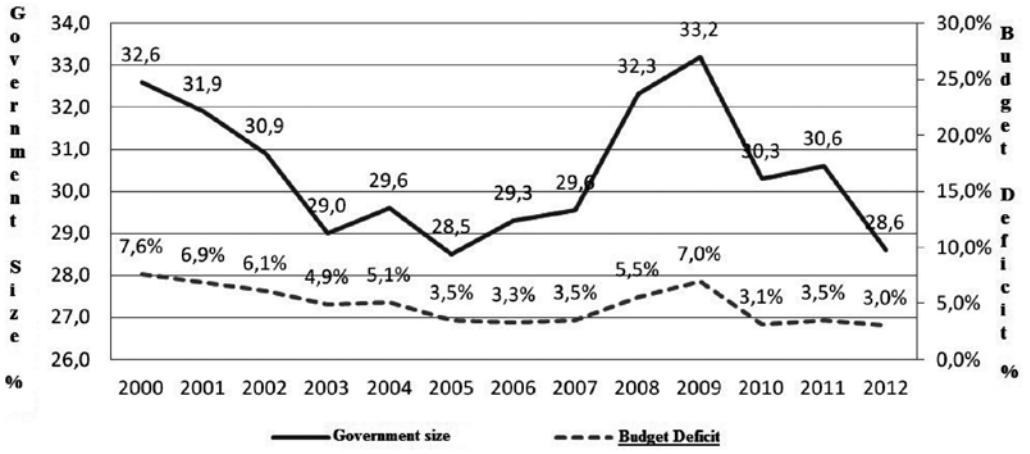
Budget deficit expresses the extent to which the expenditures exceed the revenues. This deficit can be financed by taking loans from the domestic market, which constitutes domestic financing as well as from the foreign market,

which constitutes the external financing of the deficit. Usually, budget deficit is expressed as a percentage in relation to GDP. Below we analyze the size of the public sector and budget deficit for Albania.

The link between the size of the public sector and budget deficit level is evident. If the government decides to increase expenditures at a time when income growth is impossible, the gap between expenditures and revenues will increase, which implies an increasing of the budget deficit. Therefore there is a proper relation between the size of the public sector and budget deficit. If the government increases expenditures by increasing the deficit, its intervention in the economy will grow, so this leads to the increase of the size of the public sector (Stiglitz, 2000).

In 2000 the size of the public sector was 32.6% of GDP and the deficit was at the highest value of this decade, at the level of 7.6% of GDP. After this year, it can be observed that there is a continuous decrease of G/GDP, accompanied with the decrease of the budget deficit until 2003, specifically at the level of 29% and 4.9%. Until 2007, the situation was characterized by the same trend, with the exception of the years 2005 and 2006 where the size of the public sector growth occurred without any increase of the budget deficit. This can be explained by the fact that the growth of the state expenditures was not financed by means of the budget deficit growth but by income growth of the state budget (an increase of about 12% in 2006). After this period, the two indicators have followed the normal trend.

Figure 2: *The government size and the budget deficit, (MoF, 2013)*



It should be emphasized that the year 2009 marked the highest level of government size as well as a high level of budget deficit, specifically at a level of 33.2% and 7%. This is due to the international financial crisis of 2008 that affected Albania too. Borrowing costs increased by increasing government spending

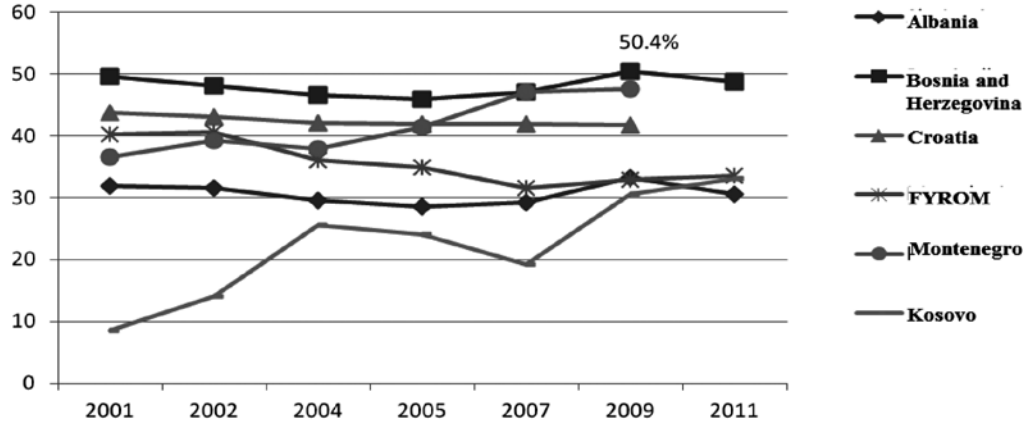
to cover the interests. The major factor contributing to the growth of the budget deficit during this year were high costs for the "Durrës-Kukës" highway. This period also coincides with the highest level of public debt in the past nine years. After the year 2009 there was a downward trend mainly on the size of the public sector and budget deficit levels.

3. The government size of other countries in the region

To better understand the importance of the public sector in the economy it is necessary to make a comparison of this sector to the public sectors of other countries, mainly of the region where Albania is part. The past communist period of most countries in the region has resulted in to high government expenditures in relation to GDP. The following chart shows the trend of government size for six Balkan countries: Albania, Bosnia and Herzegovina, Croatia, Macedonia, Montenegro and Kosovo.

It is obvious that the tendency of the change of public sector sizes in the region is more or less the same. Among the countries of the region, Bosnia and Herzegovina is the one with the highest level of government expenditures in relation to GDP, which come up to the level of 50% of GDP. This country is followed by Montenegro which has continuously increased the size of the public sector, in the last decade, reaching the level of 47%. As one of the most stable economies in the region, that of Croatia has had a steady size of public sector at about 41%. Macedonia, Kosovo and Albania have been characterized by a relatively low level of government expenditure. As a result of continuing consolidation of its institutions Kosovo has steadily grown its impact on the economy by making the government expenditures constitute about 32% of GDP in 2011.

Figure 3: *The percentage of public sector expenditure (G) in relation to gross domestic product (GDP), G/GDP% (MoF, 2013)*



4. The optimal government size

Adam Smith has always preached in favor of a small government intrusion in the economy. According to him, the invisible hand of the market would regulate it whereas in many cases the government intervention would only distort the market performance. The Great Depression of the 30's urged economists to consider the government as a regulator of markets and preventer of economic crises. Since then the government intervention in the economy has increased significantly.

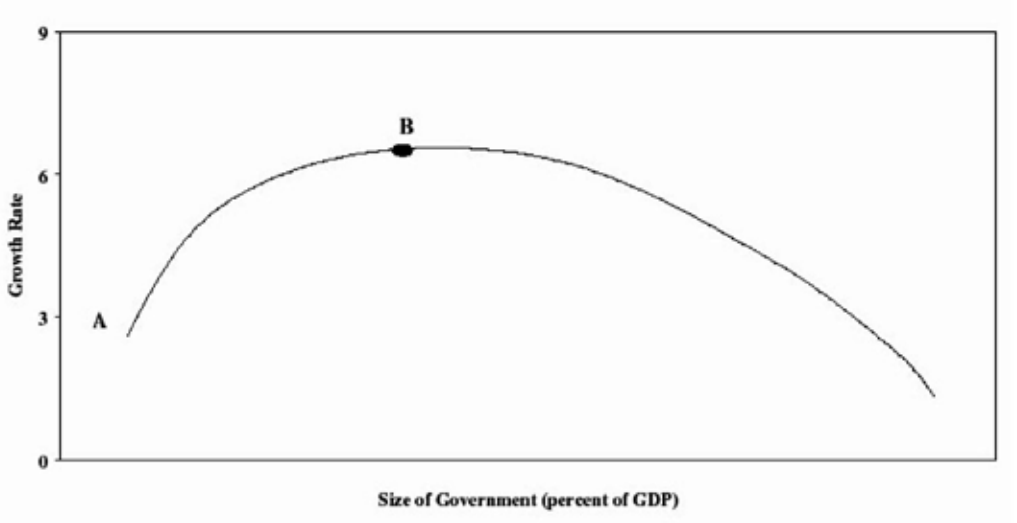
Different societies have different sizes of public sector. A question can be raised: Is there an optimal size of government in the economy?

Not all economists support the idea of an optimal size of the government in the economy. Some believe that great government intervention in the economy is inefficient and in some cases causes distortions of competition in the markets. Also high public investments may shrink a private investment by "crowding-out" effect. Other economists think that bigger government can accelerate economic growth by providing public goods and correcting market failures. Apart from that, according to these views, the growth of government consumption by means of multiplier's effects increases aggregate demand in the economy.

In many studies, economists have accepted the size which provides a higher economic growth as the optimal size of government intervention (Chobanov and Mladenova, 2009). The model which gives us an overview of this optimal size is presented in the chart below.

In the chart 4, the horizontal axis represents the size of government and the vertical one represents the economic growth. At the point A, the intervention of the state sector in the economy is near zero and the economic growth it produces is also near zero. So each level near this point is inappropriate for any country. Initially the increase of the government size is accompanied with the increase of the latter's contribution to economic growth. So the larger the government, the higher is the economic growth. If the economy is at point B the government size is optimal and there is no reason to change the level of government expenditure in the economy. At this point the economic growth has reached its maximum. Beyond this point if the government size grows, its impact in the economy will be inefficient and the economic growth will be lower. Point B is exactly the one where all the countries should aim at.

Figure 4: *Size of Government (Gwartney, Lawson and Holcombe, 1998).*



Scully (1998; 2003) developed a model that estimates the amount of government expenditures that maximize economic growth. Government expenditures comprise one of the production factors which affects the production function of an economy. Having estimated the model with data from more than 30 different countries he came to the conclusion that the government size that maximizes economic growth is at the level of 25% of GDP. This does not mean that all countries must have exactly this size of the public sector. Different countries have different optimums of the government size, due to the fact that governments do not have the same efficiency. For this reason, other studies have shown that the size should range from 20%-30% of GDP.

In Albania, the size of the public sector is about 30.6% of GDP (MoF, 2012). This level is not too far from optimal level shown above. This size is justified by the fact that the tax revenues collected by the Albanian government are relatively low and this leads to lower government expenditures. Another reason is also the existence of high budget deficits. The reduction of the budget deficit is certainly accompanied by a decrease in expenditures.

5. Conclusions

The size of the public sector can be measured by means of various methods, which do not always give the same result. One method that can be used is the method based on the number of employees in the public administration. This measurement method appears too problematic because the same number of employees does not necessarily mean the same value added in the economy. This

is due to the fact that the technologies used in different countries are not the same. The most accurate method for measuring the size of public sector is the method that calculates how much of the added value in the economy during a year is produced by the public sector. This method uses as an indicator the G/GDP which represents the total percentage of public sector expenditure (G) in relation to the gross domestic product (GDP). As according to the expenditure method, GDP is calculated as C+I+G+Nx, it makes sense to measure the public sector contribution to total economic output by total expenditures made by this sector.

The link between the size of the public sector and budget deficit level is evident. If the government decides to increase expenditures at a time when income growth is impossible, the gap between expenditures and revenues will increase, which implies an increase of the budget deficit. Therefore there is a proper relation between the size of the public sector and budget deficit. If the government increases expenditures by increasing the deficit, its intervention in the economy will grow, so this leads to the increase of the size of the public sector.

Over the past decade, Albania has experienced a proper relation between the size of the public sector and budget deficit. There are different views regarding the size of the public sector that should have an economy. However, that size that maximizes economic growth accepted as the optimal size of government. This indicator should be in the range 20-30% of GDP. Albania has consistently been one of the countries with the lowest government size in the region. This is explained by the relatively low income that the Albanian government collects and the incentives that the government has to reduce the budget deficit and public debt.

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Paper received: May 15th, 2014
Approved for publication: June 1st, 2014

Rad primljen: 15. maj 2014.
Odobren za štampu: 1. jun 2014.

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VELIČINA JAVNOG SEKTORA – SLUČAJ ALBANIJE

S a ž e t a k

Vlada je jedan od ključnih igrača u ekonomskoj oblasti svake zemlje. Njen uticaj je očigledan u svim oblastima, političkim, ekonomskim i društveno kulturnim. Ovaj uticaj se meri indikatorom koji ekonomisti nazivaju "veličina javnog sektora". Kako je vladin uticaj od tolikog značaja postavlja se pitanje: da li uticaj vlade treba biti mali ili veliki? Postoje mnogi argumenti za i protiv ovog pitanja i teško se može doći do konsenzusa o obimu vladinih intervencija u ekonomiji. Zato je svrha ovog rada da predstavimo sliku ove intervencije u ekonomskom životu ove zemlje povezujući ovaj indikator sa budžetskim deficitom.

U radu je detaljno elaboriran napredak veličine javnog sektora u Albaniji kao i merenja od strane različitih pokazatelja. Drugo, upoređena je veličina javnog sektora Albanije s javnim sektorima drugih zemalja u regionu. Konačno, predstavljeni su rezultati jedne studije koja se bazira na optimalnoj veličini javnog sektora vezano za ekonomiju zemlje koja se analizira, u odnosu na Albaniju.

Ključne reči: Albanija, budžetski deficit, javni sektor, veličina

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UDC 316.72(474.5)
Original scientific paper

MULTICULTURALISM TRENDS IN MODERN LITHUANIA: PROBLEMS AND PERSPECTIVES

Multiculturalism has significantly progressed over the last decade in Lithuania after the country joined European Union. The authors analyze the literature and country's situation of multiculturalism and intercultural communication topics; examine the challenges posed by the phenomenon to Lithuanian society. The survey was conducted to find out the opinion of the citizens of modern multicultural environment peculiarities in the country. The research made in Lithuania on this topic is short in order to fully assess the current situation, so the authors want to find out the general multiculturalism concept and its development trends in recent time. Main respondents were the young and middle-aged residents of the city, of which more than 40 percent have higher education. The survey results reflect the respondents' attitudes towards multiculturalism, demonstrates the limits of their tolerance to foreigners, the challenges they face in communicating with each other with different cultures. Conclusions provide insights and recommendations on what measures can be used for promoting tolerance to other cultures in the Lithuanian society and achieving most effective integration of representatives of different cultures into the public life of the country.

Key words: intercultural communication, intercultural competence. multiculturalism, representatives of different cultures

1. Introduction

Global co-operation with the development of various nations and intercultural dialogue is one of the key factors of an open, modern society creation and the promotion of tolerance. The international dimension outlines the importance of corporate heritage to specific region, Europe or the whole world. For example, the Lithuanian capital Vilnius, has a multiethnic city face, it was shaped for ages by many religious and ethnic communities, whose contribution led to the multiethnic and multicultural city phenomenon (http://www.kpd.lt/lt/). This has

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had a considerable significance in choosing Vilnius city for European capital of culture 2009.

Lithuania is traditionally accredited to the relatively small and quite homogenous European countries, which is characterized by a small scale immigration – according to the data of The Department of Statistics, each year over the last decade about 2000 foreigners were coming to Lithuania, while ethnic minorities living here for a long time have already been adapted for sufficient amount of time, but is it really even in a seemingly homogeneous community, there is a reason to talk about culturally integral society? (Erentaitė, 2008).

The examination of multiculturalism in the broad sense, this phenomenon includes race, ethnicity, language, sexual identity, gender, age, social class, education, religion and other cultural dimensions (American Psychological Association, 2002). Studies carried out in Lithuania (Erentaitė, 2008) suggest that although macrocultural contrasts related to ethnic or religious diversity, Lithuania is unparalleled to such mixed societies like the U.S. or Western European cosmopolitan urban centers, however, there is no reason to believe that the state forming community is more homogeneous by population age, social class, sexual identity or other characteristics. Lithuania is called Catholic country, while sociological studies show the differentiation of the country's societal values and norms, because a large part of the population tolerated values is more like a secular position (Žiliukaitė, 2007), and near the cultural foundation held the conjugal family model is actively practiced in other family forms (Mitrikas, 2003). Cultural diversity, especially microcultural differences and trends in Lithuania are related to the free movement of European Union influence, the previous migration of the last decade, the rapid development of information technology and the influence of Western culture developed social priorities.

Purpose of the article - analyzing scientific publications, statistical information and using the questionnaire method, discuss multiculturalism manifestation in contemporary Lithuania, ascertain residents opinion about various cultural dimensions issues, to provide survey results analysis, the basis of which highlight the main trends of multiculturalism and the resulting problems, see the tolerance of other cultural representatives the promotion opportunities and assess the process control conditions.

2. Multiculturalism context

The nature of human communication depends on the lifestyle, the corresponding orientation, character, taste, interest (Ebner, 1979). It is obvious that there are universal human qualities that are specific with different nationalities, but also the national or regional culture makes the huge impact to human behavior. Different nationalities, speaking different languages, see the world's picture

differently and also have their own way to assess phenomenon and set their affairs, they tend to deal accustomed to their community of existing codes of conduct, that is why in the face of different cultures, their implemented and learnt national concepts do not meet the regulations of those who they are communicating with. And then there rises a cultural expression: the problem of values and the essential elements acceptability (Pruskus, 2004).

A very important part of the culture is a language, which can be regarded as a conscious thought. Famous Great Britain linguist Richard D. Lewis says that when the person is speaking, only the tip of the large iceberg flashes, consisting of verbal activities, not overstepping the limits of hearing. Based on the author's assumption, we can presume that what is said is only a brief summary of the human mind, born in his inner world, so even though grammatically can be evaluated as true or false, but there will always be colored by the human worldview, which is subject to strict his native language structure (Lewis, 2000).

Geert Hofstede (2001) defines culture as „the collective programming of the mind which distinguishes the members of one group from another." That is why it is primarily the collective behavior of the system, determined by values. Cultural values help determine how an individual or a social group reacts to its environment. Hofstede proposed paradigm, which he divided into five cultural dimensions (see Table 1). Based on these dimensions, it is possible to describe and compare the different cultures.

Table 1: *Cultural dimensions according to Hofstede (2001).*

Power distance	Uncertainty avoidance	Long term and short term orientation
Individualism and collectivism		Masculinity and femininity

According to Diana Janušauskienė (2013) the research of tolerance is a part of values research. Mostly these studies include the treatment of various social groups, which differed markedly from the dominant majority in the culture, research. In addition to various social groups, recently the research object of national minorities is becoming more frequent with their own unique cultural flavor. As society becomes increasingly diverse, the approach to a different position, appearance, or way of life is becoming extremely important indicator showing public maturity.

Tolerance and intercultural education are very closely related. For effective cultural communication the compatible level of contemporary society's cultural literacy, in other words, intercultural competence is necessary. V. Pruskus in his book "Tarpkultūrinė komunikacija ir vadyba" (2012), agrees with E. D. Hirsh, who is dividing these intercultural competence levels:

- Needed to survive in the new cultural environment;
- Enough to enter into a foreign culture;
- Providing full existence in a new culture;
- Enabling the implementation of language singularity.

Intercultural competence is traditionally analyzed with the help of conceptual models. Cross-cultural competence (IC) model is the most used model in research. According to this model intercultural competence consists of three main components: a sufficient cultural knowledge, cultural skills or skilled actions and the corresponding motivation or personal attitude (Byram, 1997). *Cultural knowledge* - this is a general information about cultural practices, specific information knowledge about a particular culture, and information about your own culture knowledge; intercultural differences in communication styles and managers recognition, showing flexibility in dealing with communication misunderstandings, and feeling comfortable dealing with foreign citizens or other culture people. *Cultural skills* include appropriate and effective behavior, which is perceived as competent in the context of cultural diversity. This component includes such important skills as the ability to understand and clearly communicate with other cultures, decidedly conceiving communication goals, roles and norms. *A personal vein* describes the personal interest of cultural interaction, its emotional and physiological reaction and the degree of empathy in relation to other cultures. Is he tolerant of ambiguity and uncertainty because of cultural differences? Can he work with people of other culture (Matveev and Milter, 1995)?

Cultural identity – it is different values and different ways of dealing with things. Cultural interface success is inevitably associated with tolerance to different values, cultural diversity. Tolerance grows with recognition, knowledge and skills acquisition, formatting broader-minded personal stance. Multicultural environment, cultural identity, tolerance and the need for education - are the key components of multiculturalism.

3. Multiculturalism in Lithuania – research discussion

In recent years, interest in intercultural communication has been supported by the EU Council decision of 2007 established European Integration Fund, whose main goal – to support the efforts of Member States with the help of different economic situation, social standing, cultural, religious, linguistic and ethnic dependence to third-country nationals to meet the conditions of residence and to facilitate their integration into European societies. Foreign authors of scientific publications emphasize intercultural communication topics (Kaluza, Golik, 2008; Korshuk, 2008; Hańderek, 2008; Williams, 2008; Chuťka, 2008),

while Lithuanian researchers are more interested in the aspects of intercultural competence definition (P. Paurienė, 2010; Pruskus 2004, 2008, 2010, etc.) and the features of communication between Lithuanian population and foreign people (Macevičiūtė, 2005). In Europe, a place where the most research has been done about this question is Germany, while in Lithuania intercultural communication thing started teaching only in 2011 Vilnius University, Faculty of Communication, the development of communication specialists (Pruskus, 2012).

The prof. of University of Wroclaw (Poland), Alicja Szerlag in 2007 completed the Vilnius region research about intercultural education of 330 families dedicated to the national specifics of structure, education system, household situation in family, education function features and their dynamics, family values enshrined. The main conclusion of this author's research: family, school, local and regional activities are the main generators[1] of intercultural competence development. According to the author, „... nationality may be a factor that helps differentiate personal relationships in defined social space. Caring that, it is important to examine inter-cultural education complexly in the context of school education (Szerlag , 2007).

D. Janušauskienė commenting researches done in Lithuania about tolerance to foreigners conducts that there is no need to talk about widespread intolerance, although relations between people of different nationalities in individual cases is a problem and a review of the various different tolerance study shows that the majority of the population in both Lithuania and ethnic Lithuania is optimistic with regard to foreigners. Made in autumn 2007, special Eurobarometer survey „Intercultural dialogue in Europe" has revealed how the residents of Lithuanian assess cultural diversity: 21 percent of Lithuanian population completely agree and 55 percent agree that the country's cultural life is highly enriched by the people with different cultural roots. In Baltic barometer survey, done in 2000 data shows that 67 percent of Lithuanians believe that you should always try to understand other than your own view. Those who think this way is 61 percent of Lithuanian Russians. Also a high tolerance of children education in their parents' native language existed for a long time. Studies from 2000 show that as much as 88 percent of Lithuanians believe that all Lithuanian residents must exercise the right to receive education in their parents' language. However, about one-third of Lithuanian express one or another negative prejudices against foreigners, for example, in 1999 carried out research of political culture showed that 34 percent of Lithuanians agree with the statement that Lithuania grants too many rights to foreigners. In autumn 2003, tolerance research, done in Lithuania have documented that negative attitudes towards Jews have 20.4 percent of respondents, and even 42.7 percent have a negative attitude against Romes (Janusauskiene 2013).

The content and context of tolerance, respect for diversity and equal opportunities for education in Lithuania was exhaustively analyzed by J. Reingardė,

N. Vasiliauskaitė and R. Erentaitė (2012) . Social tolerance measurement research in schools environment shows that both teachers and students welcome the opportunity to interact with people from other nations, infidels, representatives of the different races, also disabled friends, neighbors, colleagues, or students who are close to themselves in personal and professional environment, but both groups investigated that the most unacceptable group for them are homosexual people. The data also shows that multicultural competence of teachers is low, local perspective is dominating, there is the lack of resources for critical reflection, teachers use media (usually the Internet) as the main information source of various cultural groups. The information about social and cultural diversity and equal opportunities given by the teachers and textbooks is considered to be the most immportant information source for the students. It is observed that the least information of social and cultural diversity and equality issues students receive from the social cultural minority groups and extracurricular activities.

Given results show that education of cross-cultural competence and tolerance for „different people" is an important and improvement-needed phenomenon in society's maturity development.

4. Multiculturalism trends in Lithuania – focus on opportunities

Due to Lithuanian Department of Statistics population census data of the year 2012, the population of Lithuania is about 3 million people (http://db1.stat.gov.lt) , who represent 154 nationalities , among them – 83,7 percent Lithuanian, 6,6 percent Polish, 5,3 percent Russian, 1,3 percent Belarusians, 0,6 percent Ukrainian and 0,6 percent other ethnic groups (Jews , Latvians , Germans , Tatars , Roma, and others.). Vilnius, the capital of Lithuania, with population a little more than 600 thousand people, since the beginning was formed as a multinational city and today it still maintain this position, there are 128 nationalities in this city, whereas in Kaunas 85, in Klaipėda – 77, more than 50 nationalities are in Šiauliai and Panevėžys.

Lithuanian ethnic communities enjoy broad legislative rights and freedom in native language usage, education, culture, including: they can create and maintain their own organizations, to cooperate with compatriots who live in other countries, to cherish their nation's cultural heritage, to take educational activities and dissemination of information in their native language, Lithuania was one of the first countries in Europe that signed the Convention for the Protection of National Minorities (http://www3.lrs.lt), which expressed the European Council's and its member states concern about the risk of ethnic minority existence. The basic principles that guide the country through the creation and implementation of ethnic policies - development of democracy, prevention of exclusion, unity and the dialogue with various ethnic groups and individu-

als. The coexistence of European Union countries are based on common reference values of Western civilization such as democracy, tolerance, individuality (Gelumbauskas, 2004). As it is seen, tolerance for multiculturalism and its development should be included in any EU state's policy and appropriate management measures should be required. Therefore one of the priority tasks of Lithuania in controlling this process - to deepen the understanding and trust also to develop continuous dialogue between Lithuanian and Lithuanian ethnic minorities, new immigrants, tourists and others.

The authors of this article in 2013 year 09-10 months conducted a study, which was to discuss the challenges of working and communicating in a multicultural environment: whether the population of Lithuania is inherant to familiarize different cultures, are Lithuanian people able to work and communicate with other nationalities and cultures representatives in order to live in equality, despite the different culture, lifestyle or origin.

The study was performed using an anonymous survey method, the respondents were interviewed both directly and via the Internet, nearly two hundred completed questionnaires were received. Most of the respondents are Lithuanian citizenship, one of them - an Israeli citizen. In addition to Lithuanian respondents answers there were received one reply from Estonia, Great Britain and Norway. By ethnicity respondents were distributed as follows: 76,6 percent - Lithuanian, 10,4 percent - Polish, 4,2 percent - Russian , 0,5 percent - Belarusian, which is close to the Lithuanian population structure (see Table 2), 8,3 percent respondents did not indicate their ethnicity.

Table 2. *The comparison of respondents' distribusion according to nacionalities.*

Distribution of Lithuanian citizens according to nationalities	Distribution of respondents according to nationalities
84,2 percent Lithuanian; 6,6 percent Polish; 5,8 percent Russian and oth.	76,6, percent Lithuanian; 10,4 percent Polish, 4,2 percent Russian and oth.

The majority of respondents are women (65 percent), sorting by age - 71,4 percent of all respondents are younger than 35years old, 87,5 percent of respondents live in a city, 6,2 percent – district centers and other city type settlements, 5,2 percent – villages. 40 percent of the respondents work in the public sector, 25 percent – in private sector, 26 percent of those who answered are still studying and 9 percent don't work at all. In the survey participated 10,4 percent people with doctoral degree, 43,2 percent of the respondents have a bachelor or a master academic degree, others – have completed secondary and vocational education. Bigger part of the respondents – are young and middle aged city people, from which more than 40 percent have a higher education.

In Lithuania, like in every other country, live people with different sex, social sectors, nationalities, race. They talk in different languages, have different traditions, follow different religions, have their own values in life and so on. Respondents were asked to evaluate, how relevant are cultural differences in Lithuania, looking at race, nationality, language, religion, sex, sexual orientation and social status (Table 3.). As we can see, for more than half people questioned, mind the linguistic differences. (54,7 percent), and a good reason for that could be lack of other language skills those respondents have, the language used by a foreigner is rarely heard, and so on., that's why there's a need for further researches about this, so that we could answer more correctly about the situation. Almost every second respondent (42,6 percent) for various reasons (including the preservation of national identity) care about ethnic diversity, even though for the majority of Lithuanian citizens ethnic differences don't cause any problems. For more than a third of people answered seem to have a problem with sexual orientation in Lithuania.

Table 3: *Different cultural features relevance, %*

Cultural differences	Important	Nor important, nor unimportant	Doesn't care
Race	30.0	30.5	39.5
Nationality	42.6	30.9	26.6
Language	54.7	27.9	17.4
Religion	12.5	54.8	32.7
Sex	16.5	34.6	48.9
Sexual orientation	36.4	30.5	33.2
Social status	33.5	35.1	31.4

Absolute majority of people asked (9 from 10) admit that religious differences don't mind them, what is tied to wide range of opportunities to practice their religion freely in Lithuania as well as to develop tolerance towards other religions. Perhaps that is because, in Lithuania there aren't many people living with different races, event 70 percent of the respondents cultural differences according race is not relevant or poses indifference.

To find out the problems of intercultural communication, it is needed to know, how often Lithuanian citizens communicate with other cultures – find out about respondent intercultural experience while working with people from other cultures in an informal environment. From the survey results it is visible, that 41,3 percent of all respondents work with people from other cultures constantly, that is once per week and more. 29,1 percent have the opportunity to work with other cultures just some times, which is once or twice a year. 37,2 percent surveyed people communicate with other culture people constantly in an

informal environment and 36,7 percent of them communicate with representatives of other cultures just sometimes. By the way, 14,3 percent of the respondents haven't had the chance to work with people from other cultures, and 2,1 percent has never in their life communicated with a person of a different culture. (Table 4.) As you can see in the chart, 2,1 percent have no experience of inter-cultural communication at all.

Table 4: *Communication with other cultures in working and informal environment frequency, %*

	Constantly (Once a week and more)	**Often (Once per month)**	**Sometimes (1-2 times a year)**	**Never**
Worked together	41.3	15.3	29.1	14.3
Communicated in an informal environment	37.2	23.9	36.7	2.1

Respondents, that have experience in working or communicating with other cultures, were asked – what difficulties have they encountered or have not encountered during the process of intercultural communication (Table No. 5.). We see, that even 69,6 percent of the surveyed people have a history of language barrier / miscommunication problems, 54,7 percent of the respondents had a hard time while discussing about values of life, and about customs and tradition differences – 50,0 percent of the respondents. When talking about religious differences 64,4 percent of people asked, have never faced any problems, same with social status, half of the respondents (49,2 percent) haven't had any problems as well.

Table 5: *Frequency of facing the cultural differencies, %*

Cultural differences	**Often**	**Sometimes**	**Never**	**Don't have a clear opinion**
Language barriers	15.7	69.6	13.1	1.6
Custom and tradition differences	7.8	50.0	37.0	5.2
Different values in life	11.1	54.7	30.0	4.2
Religion and beliefs	4.7	24.1	64.4	6.8
Social status difference	6.3	33.5	49.2	11.0

Using this survey it is set out to find out – whether Lithuanian citizens have ever encountered certain intolerance: hostility, rejection or prejudice cases because of their cultural differences (Chart No. 6.). As seen in the results the

majority (6 out of 10), have never faced intolerance manifestation, have never felt rejected or somehow stood out because of their cultural identity. But, the research showed, that average of 3,2 percent of surveyed people meet with the problems mentioned before almost every day, and more than a third of respondents have at least once been affected by this phenomenon. Data from the survey shows that majority (42,6 proc.) OFM Lithuanian citizens had faced some prejudice towards them.

Table 6: *Frequency of intolerance cases, %*

	Fell it often	Has felt it	Never felt it
Have you felt hostility towards you?	2.2	35.1	62.7
Have you felt any prejudice towards you?	3.7	42.6	53.7
Have you ever felt rejected or different?	3.7	31.1	65.2

People, who have faced intolerance in Lithuania, were questioned, if it had any effect on their opinion about other cultures and what do they think about the need of multiculturalism education in Lithuania. Not looking back to the fact that almost every 3rd respondent has faced intolerance it doesn't change their opinion about other cultures, but 18 percent of people who answered think, that it's important to put more attention in educating the public about multiculturalism (Table No. 7.) One gets the impression that the lack of public attention to multicultural education for, 7,3 percent of the surveyed people, is the main reason to state, that other nationality and culture people should live in Lithuania as less as possible.

Finally, this study was aimed to find out respondents limits of tolerance for the representatives of other cultures and nationalities. In measuring the social distance between different groups Bogardus'o scale (Tar, 1999) is mostly used. It consists of some level questions, illustrating the limits of tolerance: 1) would you agree that the people of other nationalities lived in your country, 2) whether you would agree that the people of other nationalities lived in your town, 3) would you agree that people of other nationalities lived in your neighborhood 4) would you agree that the people of other nationalities lived with you for some time, 5) would you agree to marry someone of other nationality. Lithuanian residents have been asking these questions when other nationalities and cultures members were divided to the European Union (EU) (see Table no. 8) and non-EU citizens (see Table no. 9).

Table 7: *The limits of Lithuanian tolerance for citizens of EU and its partners, percent.*

Would you agree that people of other nationalities lived:	**Yes**	**No**	**I do not know**	**I do not care**
...in Lithuania	83,3	3,6	2,6	10,4
...in your town	81,7	5,2	3,1	9,9
... in your neighborhood	72,9	10,4	6,2	10,4
... with you for some time	50,0	26,6	16,7	6,8
Would you agree to marry someone of other nationality ?	40,0	20,5	27,4	12,1

The comparison of these two tables (table 8 and table 9) shows that however Lithuanian public tolerance for citizens of the EU and its partners and for non-EU citizens and its partners are different. Comparing the answers to the first stage question of tolerance shows a agreat decrese in acceptance rate (from 83,3 per cent to 66,8 percent), the approval of the second question decreases as well from the 81,7 percent to 66,5 per cent, in the third stage step the acceptance is reduced from 72,9 per cent to 56,5 per cent , in the fourth stage of the issue - from 50,0 per cent to 38,6 percent . As it can bee seen the tolerance limits of the respondents of this research presuppose their approach to marriage with a person of another nationality and it is linked to the region of origin of the other half: EU citizens have the obvious priority over the citizens from other regions (40 and 28,3 per cent respectively).

Table 8: *The limits of Lithuanian tolerance for citizens of non-EU and its partners, percent.*

Would you agree that people of other nationalities lived:	**Yes**	**No**	**I do not know**	**I do not care**
...in Lithuania	66,8	10,9	10,9	11,4
...in your town	66,5	9,8	11,4	103
... in your neighborhood	56,5	16,3	13,6	13,6
... with you for some time	38,6	35,3	17,9	8,2
Would you agree to marry someone of other nationality?	28,3	27,7	28,8	15,2

Summarizing the results, it can be said that the most common problems in communicating with representatives of other cultures according to the respondents are language barrier / miscommunication, differences in values, customs and traditions. Talking about the tolerance of the respondents for the EU and its partners and non-EU citizens and its partners, the results are different and

comparing these two cases, respondents express a wider tolerance limits in the EU and its partners citizens.

5. Conclusions

In various theoretical sources there is said about the importance of intercultural communication and multicultural competencies needed and the necessity of the modern globalized world of heterogeneous societies communication. This is especially true in communities such as Lithuania and other European countries that joined in the different countries economic and political union. Unfortunately, the Lithuanian experience in developing multicultural competence of the people is still relatively short. In the sphere of secondary education this area is touched episodically, but as a discipline in universities it began being taught only a few years ago. Stated theoretical approaches argue that the main multicultural competence and the ability to communicate with other cultures are knowledge, skills and personal attitude, while studies show that previously mentioned things are obtained by the sources of family, school, and activities in a multicultural environment.

According to results of a survey done by the authors of an article, respondents from Lithuania, summarizing the cultural differences in the relevance of certain points of view, the most relevant cultural differences in the country are linguistically and ethnically. It only confirms the scientists' R. Lewis described the language as a national identity attribute importance.

The most positive aspect of the survey results is that the vast majority of people interviewed never faced with any intolerance in Lithuania, but some of them have experienced a certain prejudice against them. A very small percentage of the respondents share the opinion that people from other cultures to live in the least, while most of the respondents believe that it is necessary to pay more attention to public education in multiculturalism development, even though that these problematic issues are likely to be resolved through intercultural education.

The main conclusion of an article – to continually develop positive attitudes of people in the country's cultural heritage, which would promote tolerance for cultural diversity and appreciate the different ethnic groups or different cultures' raised ideas of mutual influence in the development of society.

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Paper received: May 15th, 2014 Rad primljen: 15. maj 2014.
Approved for publication: June 1st, 2014 Odobren za štampu: 1. jun 2014.

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MULTIKULTURALIZAM KAO TREND U MODERNOJ LITVANIJI: PROBLEMI I PERSPEKTIVE

S a ž e t a k

Multikulturalizam u Litvaniji je znatno napredovao u poslednjih deset godina, nakon što se zemlja pridružila Evropskoj uniji. Autori analiziraju književnost i situaciju multikulturalnosti u zemlji kao i interkulturalne komunikacijske teme; ispituju izazove koje predstavlja fenomen litvanskog društva. Sprovedeno je istraživanje kako bi se ustanovilo mišljenje građana u modernoj multikulturalnoj sredin. Istraživanje u Litvaniji na ovu temu nije dovoljno sprovedeno kako bi se u potpunosti procenila trenutna situacija, tako da autori žele da saznaju generalni multikulturalni koncept i tendenciju razvoja u poslednje vreme. Glavni ispitanici su mladi i srednjovečni stanovnici grada, od kojih su više od 40 posto visoko obrazovani. Rezultati ankete odražavaju stavove ispitanika u pravcu multikulturalizma, pokazuju ograničenja njihove tolerancije prema strancima kao i izazove sa kojima se suočavaju u komunikaciji sa ljudima različitih kultura. Zaključci pružaju preporuke i uvid u ono se može upotrebiti za promovisanje tolerancije prema drugim kulturama u litvanskom društvu, kao i mogućnost ostvarivanja najefikasnije integracije predstavnika različitih kultura u javnom životu zemlje.

Ključne reči: interkulturalne komunikacije, interkulturalne kompetencije, multikulturalizam, predstavnici različitih kultura.

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UDC 338.3(474.2)
Original scientific paper

RESTRUCTURING OF MANUFACTURE UNDER GLOBAL FINANCIAL AND ECONOMIC CRISIS: THE CASE OF ESTONIA

It was not possible for Estonia only by raising the technological level of enterprises and increasing so-called technical productivity to catch up in terms of productivity with the developed industrial countries. The structure of Estonian manufacture was out-of-date and required cardinal and fast changes toward greater value added.

Every time a crisis hits, it brings about new breakthroughs in science and technology; promotes fundamental changes that take place in a relatively short period of time; gives birth to new industries; forms new growth points in the economy. The crisis has had a far-reaching impact on the world economy and has brought challenges and opportunities to all countries and all fields. In addition to big difficulties, the crisis provided for Estonian manufacture also an exceptionally good chance for change and development.

The crisis had a purifying and disciplining effect, enabled to eliminate from the manufacture wrong investments and inefficient enterprises. Assets were redistributed from passive economic agents to active ones and in favour of those who had capital for growth financing. After the crisis the structure of Estonian manufacturing is more effective than before: 1) technological level higher; 2) organization of work more perfect; 3) value added and productivity higher; 4) position of value chain better; 5) maybe also the value chain itself new and better.

But there are fewer jobs in the new structure of manufacturing than before the crisis. Economic, social, regional etc. stratification has increased. The influence of crisis is not over yet and there is still a risk of some setback in future. There may also arise new problems and old problems may grow sharper.

Key words: crisis; manufacture; restructuring; stratification

1. Introduction

Manufacturing is the use of machines, tools and labor to produce goods for use or sale. The term may refer to a range of human activity, from handicraft to

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high tech, but is most commonly applied to industrial production, in which raw materials are transformed into finished goods on a large scale.

A challenge is a general term referring to things that are imbued with a sense of difficulty and victory – a call to engage in contest, fight, or competition. Opportunity is a good chance for advancement or progress.

The current (or by now already past) global financial and economic crisis has had a far-reaching impact on the world economy and it has brought challenges and opportunities to all countries and for all fields. Every time a major crisis hits, it brings about new breakthroughs in science and technology; promotes fundamental changes that take place in a relatively short period of time; gives birth to new industries, and forms new growth points in the economy.

This paper seeks to cover contemporary challenges and opportunities of Estonian manufacture after the global financial and economic crisis. The general situation and tendencies in the world economy influencing restructuring of manufacture in a small open economy of the European Union member state are discussed. The main goal of this paper is to summarize the objectives and experiences of knowledge applied by different agents and to study alternatives and opportunities in this process. Specific focus of this paper will be on main tendencies in the world manufacturing and the peculiar situation of a very small, open and integrated manufacture.

2. The Structure of Estonian manufacture before hlobal financial and economic crisis

Most fundamental changes in Estonian manufacturing took place in 1992–1999 when manufacturing adapted to the new political and economic conditions. After the drastic structural changes in the early 1990s (in connection with regaining independence and the transition-reversion-return-comeback from planned economy to market economy) and the Asian-Russian crisis provoked slowing down of the growth in 1998–1999, the Estonian manufacturing enjoyed for eight years a relatively stable and fast growth. It stabilized around 10% in 2001–2006.

Since 2000, the structure of Estonian manufacturing has become more stable. Structural changes in this period were quite slow, insignificant and painless. Entrepreneurs grew used to it and believed that it's the way it has to be and will be. The predominant opinion in this period was that Estonia had almost accomplished its great ambitions: 1) re-establishment of independence – August 20, 1991; 2) withdrawal of Russian troops – August 31, 1994; 3) NATO membership – March 29, 2004; 4) European Union membership – May 1, 2004; 5) Schengen membership – December 21, 2007. Many were of the opinion that there was only one big aim left to accomplish for Estonia – join the Economic

and Monetary Union of the European Union (EMU). Then Estonia would be the most integrated country in Northern Europe – only Estonia would be involved in four integration programs of Western democracies (EMU; Schengen zone; EU; NATO) in this region.

But relatively stable development and missing fundamental structural changes were dangerous for Estonian manufacturing. Employment in Estonia was unfortunately concentrated into sectors of manufacture where it was not possible to significantly increase productivity and hence also value added. Enterprises operated to a small extent in those economic sectors where productivity increase was more feasible or in less profitable part of value chains. Such conditions set limits to the further growth capacity of the Estonian manufacturing.

A research ordered by the Estonian Development Fund from Tartu University (Arengufond, 2008) calculated that if all branches of Estonian manufacturing achieved the productivity that is in the respective branch of manufacturing in the most advanced countries in European Union while the distribution of Estonian labor between the branches of manufacturing remains the same as now, then productivity in Estonia would attain only 56% of the Irish, 78% of the German, 80% of the Finnish and 90% of the Danish level. Hence, it was not possible for Estonia only by raising the technological level of enterprises and increasing so-called technical productivity to catch up in terms of productivity with the developed industrial countries. The structure of Estonian manufacture was out-of-date and required cardinal and fast changes toward greater value added.

3. Challenges and opportunities provided by global financial and economic crisis for Estonian manufacture

In 2000–2002, labor productivity in Estonian manufacturing increased faster than production volume. In 2003–2007, when the increase in production stabilized, the volume of output and productivity growth almost equalized. During that period Estonian manufacturing enterprises did not contribute to productivity growth and where production demand increased also additional staff was hired. The increase in labor costs augmented enterprises' costs, which in turn led to price increase of products and reduced the competitiveness of Estonian manufacturing enterprises.

Notwithstanding all sorts of financial and economic regulations cycles are inevitable in a market economy. The year 2007 already showed the first signs of slowdown in production growth. The beginning of decline cycle appeared in manufacturing at the beginning of 2008. Already then it was clear that both Estonian economy and global economic environment had significantly changed in recent years. Labor shortage had been replaced by unemployment, prices for many product inputs had increased and credit facilities more difficult to

obtain. An inner structural crisis had developed in Estonian economy and real economic growth slowed down. A global financial crisis broke out in September 2008, which soon grew into a global economic crisis.

Developments in the world were still only the context for specific developments in the Estonian manufacturing – global financial and economic crisis had very different overall effects on different countries. The world financial crisis that began in 2008 affected countries in different ways, depending on their forms of international integration (Myant and Drahokoupil, 2011; Wade, 2008; 2009; Friedman, 2009; Stiglitz, 2009). Global financial and economic crisis was very badly timed for Estonia. In the years of rapid economic growth, when domestic demand was relatively high companies were not forced to contribute to productivity growth. An inner structural crisis had already developed in the Estonian economy. The Estonian economy had already grown weak and vulnerable to external shocks. Sharp deterioration of global conditions meant for Estonia amplification and piling up of two big factors (inner and outer), and contraction of the economy was inevitable. Real economic growth in Estonia slowed down very sharply.

The Estonian manufacturing had reached the stage of faster, more radical and painful structural changes again. It was realized that further development in Estonia will be to a very large extent determined just by external factors – developments in the world (especially in EU) and in the economic environment. These determine in the main challenges, opportunities and economic playground for Estonia.

The Estonian economy is very small and very open. It participates in international trade, but is small enough compared to its trading partners, so its policies do not alter world prices, interest rates, or incomes. The Estonian economy is a typical price taker. In 2008, Estonia's foreign trade (export 132.4 billion kroons + imports 170.0 billion kroons = 302.4 billion kroons) to GDP (251.5 billion kroons) ratio was 1.20, one of the highest in the world (Statistics Estonia, 2011; Eurostat, 2011). Due to the very small domestic market exports, i.e. successful sales in the world market are the main driving force of the economy and the main source of economic growth. The export share of manufacturing output remained just below half of the production until 2000. In 2000 the magical 50% threshold was exceeded.

As the Estonian economy depends on exports, it, manufacturing included, is extremely sensitive (much more sensitive than large countries with more closed economies) to all influences of the global economic environment. In 2008, compared to 2007, production decreased 4.5%. 2009 turned out an even amore difficult year for Estonian manufacturing. The decline in manufacturing grew into the biggest financial and economic crisis during the last decades. In 2009, compared to 2008, Estonian manufacturing production decreased as many as 28%. This was caused by inadequate demand on both domestic and foreign markets.

But in addition to big difficulties, the global financial and economic crisis provided for Estonian manufacture also an exceptionally good chance for change and development. The situation changed considerably and it was not possible to go on as before. The global financial and economic crisis had a purifying and disciplining effect, enabled to eliminate from the manufacturing wrong investments and inefficient enterprises, lowered the proportion of domestic market focused branches. Assets were redistributed from passive economic agents to active ones and in favor of those who had capital for growth financing. During boom years, the economy was mainly simply expanding, but during the decline, new ideas and more effective ways were searched for. Now it was possible to realize changes what was impossible to do during stable and fast growth.

During the global financial and economic crisis, several industries with long historical traditions disappeared in Estonia. Also several relatively new enterprises set up by foreign capital in the 1990s, which were primarily focused on cost advantage (low taxes, cheap labor, electricity, water etc, partly also cheap resources and materials bought from Russia) and not interested in operating in Estonia for long, terminated their activity in Estonia. Many low-technology, labor-intensive and low-capital-intensive productions that came to Estonia during that period moved on to CIS or Asia.

Unlike the developed and rich industrial countries Estonia had not in the least interested in keeping its *status quo*, and wanted to change it quickly and essentially. The global financial and economic crisis provided for this an exceptionally good chance. All sorts of developments, international relocation of production and reallocation of economic power in the world gathered speed.

Although: 1) the global financial and economic crisis had caused an economic decline in the countries Estonia was exporting to; 2) the protectionist tendencies – also inside European Union – had grown stronger; 3) suppliers demanded advance payments; 4) the Estonian kroon being pegged to euro had grown more expensive for some currencies (Sweden, Russia, Ukraine etc.) of export countries; 5) loan raising was much more difficult than previously, etc, attempts were made by Estonian manufacturing enterprises to take maximum possible advantage during the global financial and economic crisis. The more that there were positive developments also for entrepreneurs: 1) raw material prices in the world market had fallen; 2) real estate was cheaper; 3) wage pressure had abated; 4) the failing enterprises disappeared from the market leaving gaps and many enterprises were looking for new cooperation partners, 5) supply chains were changing; 6) international corporations were selling local subsidiaries etc.

The state of Estonia (in the first place Enterprise Estonia, Development Fund, Tallinn Entrepreneurship Agency, various techno parks, ministerial units of innovation etc.) had tried, within the limits of competence and financial resources, to create an innovative economic environment and provide general recommendations for economic development. The recommendations of the

state arose from a matter of fact that: 1) the wealth distribution scheme in the contemporary globalized world is contradictory; 2) success of advanced industrial economies is based on specialization in useful, high-value-added activities; 3) incomes of the participators in the world economy are most influenced by whether and how they can find a niche in a high-value-added branch and value chain. Unfortunately, the state of Estonia was not able (competent) to say what exactly should be done and can be done. Entrepreneurs themselves had to devise a successful business plan.

Enterprises had the following strategy options in that period: 1) lower costs – revise all processes and their management (organizational innovation); 2) change their production or services – differ from others (product or service innovation); 3) increase revenue – sales outside Estonia, continuing internationalization, cooperation with partners; 4) replace labor with capital – investment, reduce labor-intensive production; 5) change the position in value chain – move toward end consumers or toward product development.

Usually Estonian manufacturing enterprises in this period acted in the following way:

- Estonian manufacturing enterprises tried to shift from branches and activities where it was difficult significantly to increase productivity and value added, to more profitable and promising ones.
- Estonian manufacturing enterprises started to increasingly more operate in international networks and value chains. They located procurement, production, distribution, marketing, sales and services in different countries across the world. They performed every operation where the price-quality ratio was the best. Transnational relocation of production – mainly through foreign direct investment and subcontracting – was growing at an increasingly faster rate. Estonian manufacturing enterprises tried to find their opportunities in the "declining" market, profitable niche.
- Estonian manufacturing enterprises made attempts, by developing production, technology and sales, to climb up in the value chain, increase value added and profitability. Producers or service providers used mainly three possibilities to raise the value: 1) turn into a product developer; 2) turn into a brand holder; 3) move up in the value chain to higher value added products/services.
- For increasing productivity the target was set to high-technology production, which, as a rule, guarantees higher productivity and greater value added. But owners and executive managers of Estonian manufacturing enterprises understood that high-technology branches shouldn't be identified with high-technology production. All branches today contain segments of high-technology production and products, effective marketing channels, well-known brands etc. In the global mar-

ket a brand owner in low-technology branch earns as a rule more than most of the subcontractors in high technology branches. Value added in electronics industry as a whole is definitely higher than in textile industry. But on the other hand, there are many low-productivity enterprises and entire branches in electronics industry (primitive subcontracting, assembly operations etc.). And, for example, in textile industry there are old, famous enterprises producing billiard and game table fabrics which own a well-known brand and earn enviably high profits, factories producing various specific products (cloths for firemen and racers, bullet-proof fabric etc.).

- Leading manufacturing enterprises in Estonia tried to implement a strategy of big Western corporations. They dedicated themselves only to product development, logistics and marketing. They tried to administer trademarks, product portfolios and value chains. Production was organized in some "cheap" country. Such enterprises tried to work as "producer without a factory".
- If it was not (yet) possible to be successful with end products, attempts were made to be competitive at least in the subcontracting market. Estonian manufacturing enterprises tried to shift from single procurement contracts to long-term contracts, become standing suppliers, participate in R&D activity, achieve high technological competence, being aware of the whole production cycle. Enterprises tried to orient to such high-technology subcontracting that the customers were not capable of doing themselves. For that they needed to own something that customers didn't – know-how, specialists, equipment or something else. These were the subcontractors customers concluded long-term contracts with and assisted in introducing standards, management systems etc. For such subcontractors customers paid well and such business partners were respected. There was much less sense to orient to such subcontracts which could be done cheaper than by the customer (a better price to quality ratio), for production for which the contracting entity had no sufficient production capacities or what was ordered outside to diversify risks (so as not to create production capacities which, when the conjuncture grows worse, will remain under-utilized).
- Estonian manufacturing enterprises tried continuously to use their proximity to the West-European market, their ability to produce small quantities, as well as operative and flexible production. In China and India one can get a subcontract at a better price-quality ratio than Estonia. Fortunately for Estonia, these countries are far away from large Western firms. Those who order subcontracts prefer to avoid large time differences, long air travel; they have problems with an inadequate infrastructure, different culture and food they are not accustomed to. There-

fore they have so far preferred Estonia. Employees of the large firms in Nordic countries and Western Europe, which are up to three hours of travel from Tallinn, prefer Estonia regardless of the worse price-quality ratio. However, time is not working in favor of Estonia. The price-quality ratio is growing more and more significant.

Estonian manufacturing had a splendid opportunity to exit from the global financial and economic crisis as a winner, and take up a more dignified position in international division of labor than before the crisis. This, however, demanded many fundamental changes.

In 2007, Estonia was given the 163rd place in terms of labor market flexibility in the international rating of 181 countries (Eurostat, 2011; ILO, 2011). The new Employment Contracts Act (Employment Contracts Act, 2008), which entered into force on July 1, 2009, improved the situation in the Estonian labor market. Now the labor market is more flexible and labor force can easily and rapidly move from low-productivity branches to more productive ones.

The educational system changed more flexible too. A problem for Estonia during the boom years was that the labor market gulped down people with three years of general higher education who needn't be and were not specialists. Large drop-out numbers from school threatened long-term competitiveness of Estonia. Economic decline and the related unemployment provided many with a forced opportunity to continue education and graduate. At the same time, career counseling of high-school graduates improved significantly, as well as retraining and continuing education (Estonian Ministry of Education and Research, 2011). One can hardly plan what kind of new professional skills exactly people should be taught. But the training process itself is very important. People come together, share ideas and are more alert to notice new work opportunities.

The structure of Estonian manufacturing improved slightly between 2008 and 2010. The rate of employment with labor-intensive and small value-added textile and clothing industry dropped from 19.6 to 13.8 thousand (from 14.5% to 12.7%), whereas in the higher value-added metal, machinery and apparatus industry only from 37.2 to 31.4 thousand (from 27.5% to 28.9%). (Statistics Estonia, 2011).

The structure of Estonian exports also improved a little – the processing degree and value added of goods increased. Exports were differentiated (risk diversified) and largely oriented to quite stable European Union member states (Statistics Estonia, 2011), especially Finland (17% of Estonia's total exports in 2010) and Sweden (16%). In imports of metal, machinery and apparatus industry production of these countries the share of Estonia increased in 2010 (Eurostat, 2011).

4. Challenges and opportunities of Estonian manufacture after the global financial and economic crisis

The year 2010 can be regarded as a successful year for Estonia. The economy started to recover from the crisis, the confidence of entrepreneurs and consumers improved, especially significant was the growth of export volumes (Estonian Institute of Economic Research, 2010). While in the middle of 2009, Estonia was the country with the largest decrease in manufacturing production among the EU Member States, then in the 2nd quarter of 2010 Estonia became the country with the most rapid growth of production (Statistics Estonia, 2011).

However, the influence of global financial and economic crisis is not over yet and there is still a risk of some setbacks during further improvement of world economy: 1) support packages of many countries have restored their domestic demand, increasing demand also for Estonian exports, including subcontracting. When the main destination countries for Estonian exports (Finland, Sweden, Germany) terminate their economic revival programs, demand in these countries – particularly for subcontracting of Estonian manufacture – may decrease again and so will Estonian exports; 2) there is a risk (temptation) that under fallen labor costs (wages) Estonian manufacturing enterprises do not accomplish any fundamental changes – cheap workforce enables to produce and sell again labor-intensive, but low value-added products and services. This however will lead to repeat crisis. Moving out of the crisis is the immediate challenge, but the biggest challenge is to escape the reflex to try to return the pre-crisis situation.

There may also rise new problems and old problems may grow sharper. After the crisis, the structure of Estonian manufacturing will be, without any doubt, better and more effective than before: 1) technological level higher; 2) organization of work more perfect, 3) value added and productivity higher; 4) position in value chain better; 5) maybe also the value chain itself new and better. But a problem is that there are fewer jobs in the new structure of manufacturing than before the crisis (in 2008 135.0 thousand; in 2010 108.4 thousand) (Statistics Estonia, 2011). Unemployment remains extremely high, and continues to be problematic.

Another problem may be also that investment-intensive new high-technology, high value-added jobs are created mainly in Estonian capital city – Tallinn. And only top specialists and skilled workers in the capital city will benefit from these, not "ordinary people" in other regions. Not all people are qualified and do not fit into high-technology production. Such structural changes may even increase economic, social, regional etc. stratification. Estonia needs also low-technology production for employing uneducated and not so highly skilled people. Structural unemployment in Estonia has increased. Such development is pushing further still the economic, social and regional stratification.

Manufacturing has been, and continues to be, critical to the success of the Estonian economy. Manufacturing is covering an important share of GDP. Due to political and economic changes since Estonia became independent a number of structural changes have taken place in development of manufacturing. Compared to the beginning of 1990s, the share of manufacturing in GDP has decreased from 20% to about 16%. As a result of the global financial and economic crisis, the share of manufacturing accounted only for 14% of GDP in 2009. In spite of the very big decrease in production during the crisis, also a very rapid growth of manufacturing took place starting at the beginning of 2010. Already in the 2nd quarter of 2010, the share of manufacturing in GDP had increased to 16% again (Statistics Estonia, 2011).

Estonian economy can be successful only by being strongly export orientated. Estonia needs to „export itself out of the crisis". Therefore Estonia needs new exporting enterprises or to expand the existing ones. Yet many Estonian people work abroad. A worker with a medium qualification can earn in Estonia's neighboring country Finland more than EUR 1400 monthly. Only few enterprises in Estonia can pay such wages. Average wage in the electronics industry, which was on top of Estonia's export growth, was only EUR 800 in 2010. It is impossible to pay more otherwise it would be more reasonable for enterprises to move away from Estonia, to Bulgaria or farther.

Estonian manufacturing needs much more activity and better coordination so as more value added producing manufacturing industries would come to Estonia or develop here for the world market. But this is not easy. Estonian manufacturing will need to adapt and transform to new realities in which continuing globalization, international competition and innovation will play a pervasive role.

Estonian manufacturing enterprises have taken the orientation to main growth domains (sustainable energy and environmental products which enable to prevent or mitigate environmental changes and energy crisis, and/or are environment friendly: health and welfare products which increase human life expectancy and quality). Attempts were made to focus on growing markets (China, India, Brazil, etc.).

Estonian workforce has been much cheaper than in developed industrial countries and so-called technical productivity not very much lower. A problem is rather the position of Estonian manufacturing enterprises in value chains and selling skills in general.

Increased supply of workforce dismissed from the real estate sector (construction) during the crisis was an opportunity for the forced development of manufacturing sector and increase in exports. Unfortunately such tendency – moving towards a post-industrial society – may be only temporary.

It is not possible to catch up with the advanced industrial economies only by updating production technology and making production increasingly more cost

effective. Also changes in the manufacturing industry structure are necessary. This means development of new growth areas and in the traditional branches moving toward activities that give higher value added.

When Estonia grows more attractive for foreign investors, and if the present trends continue, Estonia may become rather attractive to investments orientated to short-term motivation related cost-saving, which might exert Estonia a useful effect during a few years but won't be sustainable in long-term perspective.

The previous economic policy (openness, macro-economic equilibrium), creating a favorable environment, which has brought success, is clearly necessary still. But this is not enough in the new situation. We need a focused, pro-active economic policy which has a bigger role in identifying strategic branches for the state, leading and systematically developing them. This means amplification of existing strengths, testing in new growth areas and resource mobilization and trans-sectoral cooperation for that. Economic policies must grow much more forceful, focused and related to other policies (education, sciences, foreign economic policy).

Unfortunately the competitiveness of subcontracting manufacturing enterprises of Estonia is negatively affected by that the airport of Tallinn lags significantly behind the airport of Riga by number of airlines and destinations. Price-quality ratio of subcontracting in Baltic countries is more or less the same and West-European enterprises which order subcontracts from the Baltic region have therefore started to prefer Riga where they can fly from many cities without changing planes.

While previously cost and profit were the main determinants in the traditional location theory, then nowadays soft factors such as "quality of life" (housing and environment), "image" of place or "private" reasons are very important determinants. Modern living and work environment are very important for potential high-technology investors and skilled labor. Highly skilled workers/specialists, as a rule, have a well-kept and demanding family for the living conditions. They are willing to live and work only in a region where there is a good infrastructure. Or move to such place from a place that does not satisfy them. A high-quality living environment is an increasingly important location decision factor for companies which need to attract young and talented educated workers. The availability and range of high-quality affordable housing is increasingly important.

5. Conclusions

It was not possible for Estonia only by raising the technological level of enterprises and increasing so-called technical productivity to catch up in terms of productivity with the developed industrial countries. The structure of

Estonian manufacture was out-of-date and required cardinal and fast changes toward greater value added.

Every time a major crisis hits, it brings about new breakthroughs in science and technology; promotes fundamental changes that take place in a relatively short period of time; gives birth to new industries, and forms new growth points in the economy. Global financial and economic crisis has had a far-reaching impact on the world economy and it has brought challenges and opportunities to all countries and for all fields.

In addition to big difficulties, the global financial and economic crisis provided for Estonian manufacture also an exceptionally good chance for change and development. The global financial and economic crisis had a purifying and disciplining effect, enabled to eliminate from the manufacture wrong investments and inefficient enterprises, lowered the proportion of domestic market focused branches. Assets were redistributed from passive economic agents to active ones and in favor of those who had capital for growth financing.

After the crisis, the structure of Estonian manufacturing is better and more effective than before: 1) technological level higher; 2) organization of work more perfect, 3) value added and productivity higher; 4) position in value chain better; 5) maybe also the value chain itself new and better.

The year 2010 can be regarded as a successful year for Estonia. The economy started to recover from the crisis, the confidence of entrepreneurs and consumers improved; especially significant was the growth of export volumes. But the influence of global financial and economic crisis is not over yet and there is still a risk of some setbacks during further improvement of world economy. There may also arise new problems and old problems may grow sharper.

There are fewer jobs in the new structure of manufacturing than before the crisis. Investment-intensive new high-technology, high value-added jobs are created mainly in Estonian capital city – Tallinn. And only top specialists and skilled workers in the capital city will benefit from these, not "ordinary people" in other regions. Not all people are qualified and do not fit into high-technology production. Such structural changes may even increase economic, social, regional etc. stratification. Estonia needs also low-technology production for employing uneducated and not so highly skilled people. Structural unemployment in Estonia has increased. Such development is pushing further still the economic, social and regional stratification.

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Whether Estonian manufacturing is able to achieve stability in the coming years depends on economic and political decisions and surrounding economic climate. The current situation gives hope that export based on cheap production will be replaced with more qualitative final production providing higher value added. Estonian manufacturing will need to adapt and transform to new realities in which continuing globalization, international competition and innovation will play a pervasive role.

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Paper received: May 15th, 2014
Approved for publication: June 1st, 2014

Rad primljen: 15. maj 2014.
Odobren za štampu: 1. jun 2014.

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RESTRUKTURIRANJE PROIZVODNJE U OKOLNOSTIMA GLOBALNE FINANSIJSKE I EKONOMSKE KRIZE: SLUČAJ ESTONIJE

S a ž e t a k

Nije bilo moguće da Estonija samo sa podizanjem tehnološkog nivoa preduzeća i povećanjem, takozvane, tehnološke produktivnosti sustigne nivoe produktivnosti razvijenih industrijskih zemalja. Struktura estonske proizvodnje je bila zastarela i zahtevala je sveobuhvatne i brze promene ka postizanju veće vrednosti.

Svaka kriza sa sobom donosi nova otkrića u nauci i tehnologiji; promoviše fundamentalne promene koje se dešavaju u relativno kratkom periodu; donosi sa sobom razvoj novih industrija; formira nove polazne tačke razvoja u ekonomiji. Kriza je imala veliki uticaj na globalnu ekonomiju i sa sobom je donela nova iskušenja i mogućnosti svim zemljama i na svim poljima. Zajedno sa velikim iskušenjima, kriza je obezbedila estonskoj proizvodnji izuzetno dobru šansu za promene i razvoj.

Kriza je dodatno omogućila da se uvedu red i disciplina, omogućavajući da se iz proizvodnje eliminišu pogrešne investicije i neefikasna preduzeća. Aktiva je preraspoređena iz poseda pasivnih ekonomskih činilaca ka onim aktivnim i prednost je data kapitalu za finansiranje razvoja. Nakon krize, struktura estonske proizvodnje je efikasnija nego pre: 1) viši tehnološki nivo 2) bolja organizacija rada 3) dodatna vrednost i veća produktivnost 4) pozicija lanca vrednosti je bolja 5) takođe, možda je i lanac vrednosti nov i bolji

Ali, broj radnih mesta je manji u novoj proizvodnoj strukturi nego pre krize. Ekonomska, društvena, regionalna, itd... stratifikacija je uvećana. Uticaj krize je i dalje prisutan i postoji rizik za nekim budućim preprekama u razvoju, a moguća su i pojavljivanja nekih novih problema kao i dodatno zaoštravanje starih.

Ključne reči: kriza; proizvodnja; restrukturiranje; stratifikacija

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UDC 005.96:338.48
Original scientific paper

OPTIMIZATION UNDER UNCERTAINTY WITH APPLICATIONS TO PERSONNEL MANAGEMENT PROBLEMS IN TOURISM

A large number of problems in production planning and scheduling, location, transportation, finance, and engineering design require that decisions be made in the presence of uncertainty. In the present paper, for improvement or optimization of statistical decisions under parametric uncertainty, a new technique of invariant embedding of sample statistics in a performance index is proposed. This technique represents a simple and computationally attractive statistical method based on the constructive use of the invariance principle in mathematical statistics. Unlike the Bayesian approach, an invariant embedding technique is independent of the choice of priors. It allows one to eliminate unknown parameters from the problem and to find the best invariant decision rule, which has smaller risk than any of the well-known decision rules. In order to illustrate the application of the proposed technique for constructing optimal statistical decisions under parametric uncertainty, we discuss the following personnel management problem in tourism. A certain company provides interpreter-guides for tourists. Some of the interpreter-guides are permanent ones working on a monthly basis at a daily guaranteed salary. The problem is to determine how many permanent interpreter-guides should the company employ so that their overall costs will be minimal? We restrict attention to families of underlying distributions invariant under location and/or scale changes. A numerical example is given.

Key words: invariant embedding technique, optimization, personnel management problem

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1. Introduction

Most of the operations research and management science literature assumes that the true distributions are specified explicitly. However, in many practical situations, the true distributions are not known, and the only information available may be a time-series (or random sample) of the past data. Analysis of decision-making problems with unknown distribution is not new. Several important papers have appeared in the literature. When the true distribution is unknown, one may either use a parametric approach (where it is assumed that the true distribution belongs to a parametric family of distributions) or a non-parametric approach (where no assumption regarding the parametric form of the unknown distribution is made). Under the parametric approach, one may choose to estimate the unknown parameters or choose a prior distribution for the unknown parameters and apply the Bayesian approach to incorporating the past data available. Parameter estimation is first considered in (Conrad, 1976) and further development is reported in (Liyanage and Shanthikumar, 2005). Scarf (1959) considers a Bayesian framework for the unknown demand distribution. Specifically, assuming that the demand distribution belongs to the family of exponential distributions, the demand process is characterized by the prior distribution on the unknown parameter. Further extension of this approach is presented in (Chu, Shanthikumar and Shen, 2008). Within the non-parametric approach, either the empirical distribution (Liyanage and Shanthikumar, 2005) or the bootstrapping method (e.g. see Bookbinder and Lordahl, 1989) can be applied with the available past data to obtain a statistical decision rule. A third alternative to dealing with the unknown distribution is when the random variable is partially characterized by its moments. When the unknown demand distribution is characterized by the first two moments, Scarf (1958) derives a robust min–max inventory control policy. Further development and review of this model is given in (Gallego and Moon, 1993). In the present paper we consider the case, where it is known that the true distribution function belongs to a parametric family of distributions. It will be noted that, in this case, most stochastic models to solve the problems of control and optimization of system and processes are developed in the extensive literature under the assumptions that the parameter values of the underlying distributions are known with certainty. In actual practice, such is simply not the case. When these models are applied to solve real-world problems, the parameters are estimated and then treated as if they were the true values. The risk associated with using estimates

rather than the true parameters is called estimation risk and is often ignored. When data are limited and (or) unreliable, estimation risk may be significant, and failure to incorporate it into the model design may lead to serious errors. Its explicit consideration is important since decision rules that are optimal in the absence of uncertainty need not even be approximately optimal in the presence of such uncertainty. The problem of determining an optimal decision rule in the absence of complete information about the underlying distribution, i.e., when we specify only the functional form of the distribution and leave some or all of its parameters unspecified, is seen to be a standard problem of statistical estimation. Unfortunately, the classical theory of statistical estimation has little to offer in general type of situation of loss function. The bulk of the classical theory has been developed about the assumption of a quadratic, or at least symmetric and analytically simple loss structure. In some cases this assumption is made explicit, although in most it is implicit in the search for estimating procedures that have the "nice" statistical properties of unbiasedness and minimum variance. Such procedures are usually satisfactory if the estimators so generated are to be used solely for the purpose of reporting information to another party for an unknown purpose, when the loss structure is not easily discernible, or when the number of observations is large enough to support Normal approximations and asymptotic results. Unfortunately, we seldom are fortunate enough to be in asymptotic situations. Small sample sizes are generally the rule when estimation of system states and the small sample properties of estimators do not appear to have been thoroughly investigated. Therefore, the above procedures of the statistical estimation have long been recognized as deficient, however, when the purpose of estimation is the making of a specific decision (or sequence of decisions) on the basis of a limited amount of information in a situation where the losses are clearly asymmetric – as they are here. In this paper, we propose a new technique to solve optimization problems of statistical decisions under parametric uncertainty. The technique is based on the constructive use of the invariance principle for improvement (or optimization) of statistical decisions. It allows one to yield an operational, optimal information-processing rule and may be employed for finding the effective statistical decisions for many problems of the operations research and management science. The illustrative application of the invariant embedding technique to personnel management problems in tourism is given below

2. Invariant Embedding Technique

This paper is concerned with the implications of group theoretic structure for invariant performance indexes. We present an invariant embedding technique based on the constructive use of the invariance principle for decision-making. This technique allows one to solve many problems of the theory of statistical inferences in a simple way. The aim of the present paper is to show how the invariance principle may be employed in the particular case of improvement or optimization of statistical decisions. The technique used here is a special case of more general considerations applicable whenever the statistical problem is invariant under a group of transformations, which acts transitively on the parameter space (Nechval and Vasermanis, 2004; Nechval, N.A., Berzins, Purgailis, Nechval, K.N. and Zolova, 2008; Nechval, N.A., Nechval, K.N., Danovich and Liepins, 2011; Nechval, N.A., Nechval, K.N. and Purgailis 2011; Nechval, N.A., Nechval, K.N., Purgailis, Rozevskis, 2012; Nechval, N.A., Purgailis, 2012).

2.1. Preliminaries

Our underlying structure consists of a class of probability models (X, A, P), a one-one mapping ψ taking P onto an index set Θ, a measurable space of actions (U, B), and a real-valued function r defined on $\Theta \times U$. We assume that a group G of one-one A - measurable transformations acts on X and that it leaves the class of models (X, A, P) invariant. We further assume that homomorphic images $\overline{G}$ and $\widetilde{G}$ of G act on Θ and U, respectively. ($\overline{G}$ may be induced on Θ through ψ; $\widetilde{G}$ may be induced on U through r). We shall say that r is invariant if for every $(\boldsymbol{\theta},\mathbf{u}) \in \Theta \times U$

$$r(\overline{g}\boldsymbol{\theta},\widetilde{g}\mathbf{u}) = r(\boldsymbol{\theta},\mathbf{u}), \quad g \in G. \tag{1}$$

Given the structure described above there are aesthetic and sometimes admissibility grounds for restricting attention to decision rules $\boldsymbol{\varphi}$: X $\rightarrow$ U which are $(G,\widetilde{G})$ equivariant in the sense that

$$\boldsymbol{\varphi}(g\mathbf{x}) = \widetilde{g}\boldsymbol{\varphi}(\mathbf{x}), \quad \mathbf{x} \in \mathsf{X}, \quad g \in G. \tag{2}$$

If $\overline{G}$ is trivial and (1), (2) hold, we say $\boldsymbol{\varphi}$ is G-invariant, or simply invariant.

2.2. Invariant functions

We begin by noting that r is invariant in the sense of (1) if and only if r is a $G^{\bullet}$-invariant function, where $G^{\bullet}$ is defined on $\Theta \times U$ as follows: to each $g \in G$, with homomorphic images $\bar{g}, \tilde{g}$ in $\bar{G}, \tilde{G}$ respectively, let $g^{\bullet}(\boldsymbol{\theta},\mathbf{u}) = (\bar{g}\boldsymbol{\theta}, \tilde{g}\mathbf{u})$, $(\boldsymbol{\theta},\mathbf{u}) \in (\Theta \times U)$. It is assumed that $\tilde{G}$ is a homomorphic image of $\bar{G}$.

Definition 1 (Transitivity). A transformation group $\bar{G}$ acting on a set Θ is called (uniquely) transitive if for every $\boldsymbol{\theta}, \boldsymbol{\vartheta} \in \Theta$ there exists a (unique) $\bar{g} \in \bar{G}$ such that $\bar{g}\,\boldsymbol{\theta} = \boldsymbol{\vartheta}$. When $\bar{G}$ is transitive on Θ we may index $\bar{G}$ by Θ: fix an arbitrary point $\boldsymbol{\theta} \in \Theta$ and define $\bar{g}_{\boldsymbol{\theta}_1}$ to be the unique $\bar{g} \in \bar{G}$ satisfying $\bar{g}\,\boldsymbol{\theta} = \boldsymbol{\theta}_1$. The identity of $\bar{G}$ clearly corresponds to $\boldsymbol{\theta}$. An immediate consequence is Lemma 1.

Lemma 1 (Transformation). Let $\bar{G}$ be transitive on Θ. Fix $\boldsymbol{\theta} \in \Theta$ and define $\bar{g}_{\boldsymbol{\theta}_1}$ as above. Then

$\bar{g}_{\bar{q}\boldsymbol{\theta}_1} = \bar{q}\bar{g}_{\boldsymbol{\theta}_1}$ for $\theta \in \Theta$, $\bar{q} \in \bar{G}$.

Proof. The identity $\bar{g}_{\bar{q}\boldsymbol{\theta}}, \boldsymbol{\theta} = \bar{q}\boldsymbol{\theta}_1 = \bar{q}\bar{g}_{\boldsymbol{\theta}}, \boldsymbol{\theta}$ shows that $\bar{g}_{\bar{q}\boldsymbol{\theta}}$, and $\bar{q}\bar{g}_{\boldsymbol{\theta}_1}$ both take $\boldsymbol{\theta}$ into $\bar{q}\boldsymbol{\theta}_1$, and the lemma follows by unique transitivity.

Theorem 1 (*Maximal invariant*). Let $\bar{G}$ be transitive on Θ. Fix a reference point $\boldsymbol{\theta}_0 \in \Theta$ and index $\bar{G}$ by Θ. A maximal invariant M with respect to $G^{\bullet}$ acting on $\Theta \times U$ is defined by

$$M(\boldsymbol{\theta},\mathbf{u}) = \tilde{g}_{\boldsymbol{\theta}}^{-1}\mathbf{u}, \quad (\boldsymbol{\theta},\mathbf{u}) \in \Theta \times \mathbf{U}. \tag{3}$$

Proof. For each $(\boldsymbol{\theta},\mathbf{u}) \in (\Theta \times U)$ and $\bar{g} \in \bar{G}$

$$M(\bar{g}\boldsymbol{\theta}, \tilde{g}\mathbf{u}) = (\tilde{g}_{\bar{g}\boldsymbol{\theta}}^{-1})\tilde{g}\mathbf{u} = (\tilde{g}\tilde{g}_{\boldsymbol{\theta}})^{-1}\tilde{g}\mathbf{u} = \tilde{g}_{\boldsymbol{\theta}}^{-1}\tilde{g}^{-1}\tilde{g}\mathbf{u} = \tilde{g}_{\boldsymbol{\theta}}^{-1}\mathbf{u} = M(\boldsymbol{\theta},\mathbf{u}) \tag{4}$$

by Lemma 1 and the structure preserving properties of homomorphisms. Thus M is $G^{\bullet}$– invariant. To see that M is maximal, let $M(\boldsymbol{\theta}_1,\mathbf{u}_1) = M(\boldsymbol{\theta}_2,\mathbf{u}_2)$. Then $\tilde{g}_{\boldsymbol{\theta}_1}^{-1}\mathbf{u}_1 = \tilde{g}_{\boldsymbol{\theta}_2}^{-1}\mathbf{u}_2$ or $\mathbf{u}_1 = \tilde{g}\,\mathbf{u}_2$, where $\tilde{g} = \tilde{g}_{\boldsymbol{\theta}_1}\tilde{g}_{\boldsymbol{\theta}_2}^{-1}$. Since $\boldsymbol{\theta}_1 = \bar{g}_{\boldsymbol{\theta}}, \boldsymbol{\theta}_0 = \bar{g}_{\boldsymbol{\theta}}, \bar{g}_{\boldsymbol{\theta}}^{-1}, \boldsymbol{\theta}_2 = \bar{g}\boldsymbol{\theta}_2$, $(\boldsymbol{\theta}_1,\mathbf{u}_1) = g^{\bullet}(\boldsymbol{\theta}_2,\mathbf{u}_2)$ for some $g^{\bullet} \in G^{\bullet}$, and the proof is complete.

Corollary 1.1 (*Invariant embedding*). An invariant function, $r(\boldsymbol{\theta},\mathbf{u})$, can be transformed as follows:

$$r(\boldsymbol{\theta},\mathbf{u}) = r(\overline{g}_{\hat{\boldsymbol{\theta}}}^{-1}\boldsymbol{\theta}, \widetilde{g}_{\hat{\boldsymbol{\theta}}}^{-1}\mathbf{u}) = \ddot{r}(\mathbf{v},\boldsymbol{\eta}), \tag{5}$$

where $\mathbf{v}=\mathbf{v}(\boldsymbol{\theta},\hat{\boldsymbol{\theta}})$ is a function (it is called a pivotal quantity) such that the distribution of $\mathbf{v}$ does not depend on $\boldsymbol{\theta}$; $\boldsymbol{\eta}=\boldsymbol{\eta}(\mathbf{u},\hat{\boldsymbol{\theta}})$ is an ancillary factor; $\hat{\boldsymbol{\theta}}$ is the maximum likelihood estimator of $\boldsymbol{\theta}$ (or the sufficient statistic for $\boldsymbol{\theta}$).

Corollary 1.2 (*Best invariant decision rule*). If $r(\boldsymbol{\theta},\mathbf{u})$ is an invariant loss function, the best invariant decision rule is given by

$$\varphi^*(\mathbf{x}) = \mathbf{u}^* = \boldsymbol{\eta}^{-1}(\boldsymbol{\eta}^*,\hat{\boldsymbol{\theta}}), \tag{6}$$

where

$$\boldsymbol{\eta}^* = \arg\inf_{\boldsymbol{\eta}} E_{\boldsymbol{\eta}}\{\ddot{r}(\mathbf{v},\boldsymbol{\eta})\}. \tag{7}$$

Corollary 1.3 (*Risk*). A risk function (performance index)

$$R(\boldsymbol{\theta},\boldsymbol{\varphi}(\mathbf{x})) = E_{\boldsymbol{\theta}}\{r(\boldsymbol{\theta},\boldsymbol{\varphi}(\mathbf{x}))\} = E_{\boldsymbol{\eta}_\circ}\{\ddot{r}(\mathbf{v}_\circ,\boldsymbol{\eta}_\circ)\} \tag{8}$$

is constant on orbits when an invariant decision rule $\boldsymbol{\varphi}(\mathbf{x})$ is used, where $\mathbf{v}_\circ = \mathbf{v}_\circ(\boldsymbol{\theta},\mathbf{x})$ is a function whose distribution does not depend on $\boldsymbol{\theta}$; $\boldsymbol{\eta}_\circ = \boldsymbol{\eta}_\circ(\mathbf{u},\mathbf{x})$ is an ancillary factor. For instance, consider the problem of estimating the location-scale parameter of a distribution belonging to a family generated by a continuous cdf F: $\mathrm{P} = \{P_{\boldsymbol{\theta}}: F((x-\mu)/\sigma), x\in R, \boldsymbol{\theta}\in\Theta\}$, $\Theta=\{(\mu,\sigma): \mu,\sigma \in R, \sigma > 0\} = \mathrm{U}$. The group G of location and scale changes leaves the class of models invariant. Since $\overline{G}$ induced on Θ by $P_{\boldsymbol{\theta}} \to \boldsymbol{\theta}$ is uniquely transitive, we may apply Theorem 1 and obtain invariant loss functions of the form

$$r(\boldsymbol{\theta},\boldsymbol{\varphi}(x)) = r[(\varphi_1(x)-\mu)/\sigma, \varphi_2(x)/\sigma], \tag{9}$$

where

$$\boldsymbol{\theta}=(\mu,\sigma) \text{ and } \boldsymbol{\varphi}(x)=(\varphi_1(x),\varphi_2(x)). \tag{10}$$

Let $\hat{\boldsymbol{\theta}} = (\hat{\mu},\hat{\sigma})$ and $\mathbf{u}=(u_1,u_2)$, then

$$r(\boldsymbol{\theta},\mathbf{u}) = \ddot{r}(\mathbf{v},\boldsymbol{\eta}) = \ddot{r}(v_1+\eta_1 v_2, \eta_2 v_2), \tag{11}$$

where

$$\mathbf{v}=(v_1,v_2),\ v_1=(\hat{\mu}-\mu)/\sigma,\ v_2=\hat{\sigma}/\sigma; \tag{12}$$

$$\boldsymbol{\eta}=(\eta_1,\eta_2),\ \eta_1=(u_1-\hat{\mu})/\hat{\sigma},\ \eta_2=u_2/\hat{\sigma}. \tag{13}$$

3. Application to Personnel Management Problem in Tourism

Personnel management forms a significant proportion of overall costs in hotels, tourism companies and fast food restaurants. A reduction in this by even 1% represents considerable cost savings. Demand for services is not generally known with certainty before hand and management often relies on a combination of intuition, software systems and local knowledge (particularly of marketing campaigns, events and attractions). Staff scheduling is a key element of management planning in such circumstances. There have been a number of general survey papers in the area of personnel management; these include (Bechtold, Brusco and Showalter, 1991) and (Tien and Kamiyama, 1982). The latter survey concentrates on general labour scheduling models. A survey of crew scheduling is given in (Bodin, Golden, Asad and Ball, 1983). Surveys of the literature in airline crew scheduling appear in (Arabeyre, Fearnley, Steiger and Teather, 1969; Gamache and Soumis, 1998). A good survey of tools, models and methods for bus crew scheduling is (Wren, 1981). A survey of the nurse scheduling literature is provided in (Bradley and Martin, 1991; Sitompul and Radhawa, 1990). As can be seen from this review, a large amount of work has already been done in the area of personnel scheduling. Nevertheless there is still significant room for improvements in this area. We see improvements occurring not only in the area of tools, models and methods for personnel management, but also in the wider applicability of these tools, models and methods. In this paper, we consider the following personnel management problem in tourism. A certain company provides interpreter-guides for tourists. The number of permanent interpreter-guides employed by the company is such that u of them are permanently working on a monthly basis at a daily guaranteed salary c_1 (in terms of money); when the demand for their services exceeds u, supplementary interpreter-guides or extras are taken on at a daily salary c_2 ($>c_1$). Sometimes the shortage of extras will necessitate canceling a tour, and when this happens, the loss is reckoned at c_3 ($>c_2$). How many permanent interpreter-guides should the company employ so that overall costs will be minimal? Following Kaufmann and Faure (Kaufman and Faure, 1968), we review the personnel management model and provide a broader interpretation to the structure of its solution. In development of the personnel management model, we will assume that the daily demand for tours X is a continuous nonnegative random variable with the probability density function

$f_\theta(x)$ and cumulative distribution function $F_\theta(x)$. The notation, we use for the personnel management model, is given below.

X	Random variable representing the daily demand for tours
$f_\theta(y)$	Probability density function of a demand X
$F_\theta(y)$	Cumulative distribution function of a demand X
θ	Parameter (in general, vector)
Y	Random variable representing the daily supply of extras
$p(y)$	Probability of a supply y, where y=0, 1, ..., ∞
c_1	Daily guaranteed salary for the permanent interpreter-guide
c_2	Daily salary for the supplementary (or extra) interpreter-guide
c_3	Shortage cost per unit of X
u	Variable representing the number of the permanent interpreter-guides
u^*	Optimal quantity of the number of the permanent interpreter-guides
$C(u)$	Expected overall costs as a function of u

Thus, the function of overall costs is given by

$$c(u,X,Y)=\begin{cases} c_1u, & 0\le X\le u \\ c_1u+c_2(X-u), & u\le X\le u+Y \\ c_1u+c_2Y+c_3(X-u-Y), & u+Y<X<\infty \end{cases}. \tag{14}$$

We write the expected overall costs as

$$C\,u\ =E\ E_\theta\ \ c\,u\,X\,Y\ \ =\sum_{y=}^{\infty}p\ y\int^{\infty}c\,u\,x\,y\ f_\theta\ x\,dx=\sum_{y=}^{\infty}p\ y\,C\,u\ y \tag{15}$$

where

$$\begin{aligned} C\,u\ y\ &=\int_0^{\infty}c\,u\,x\ y\ f_\theta\ x\,dx \\ &=c\,u+c\int_u^{u+y}x-u\ f_\theta\ x\,dx+\int_{u+y}^{\infty}c\ y+c\ \ x-u-y\ \ f_\theta\ x\,dx \end{aligned} \tag{16}$$

The function $C(u)$ can be shown to be convex in u, thus having a unique minimum. Taking the first derivative of $C(u)$ with respect to u and equating it to zero, we get

$$\sum_{y=0}^{\infty} p(y)\left(c_1 - c_2 \int_{u}^{u+y} f_\theta(x)dx - c_3 \int_{u+y}^{\infty} f_\theta(x)dx \right) = 0. \tag{17}$$

The value of u that minimizes (17) is the one that satisfies

$$c_2 \overline{F}_\theta(u^*) + (c_3 - c_2)\sum_{y=0}^{\infty} p(y)\overline{F}_\theta(u^* + y) = c_3 - c_1, \tag{18}$$

where

$$\overline{F}_\theta(x) = 1 - F_\theta(x). \tag{19}$$

If $p(y=0) = 1$, then

$$F_\theta(u^*) = \frac{c_3 - c_1}{c_3}. \tag{20}$$

In this case, we should choose the u^* such that the cumulative distribution function of u^* equals the ratio of the difference of the underage and overage costs to the underage cost. A relatively high underage cost results in a higher number of the permanent interpreter-guides, whereas a relatively high overage cost leads to a lower number of the permanent interpreter-guides, as one would expect. If the daily demand for tours X follows the exponential distribution with the probability density function

$$f_\sigma(x) = \sigma^{-1} \exp(-x/\sigma), \quad \sigma > 0, \tag{21}$$

and the cumulative distribution function

$$F_\sigma(x) = 1 - \exp(-x/\sigma), \tag{22}$$

where σ is the scale parameter ($\sigma > 0$), then

$$C(u) = \sum_{y=0}^{\infty} p(y)C(u, y), \tag{23}$$

where

$$C(u, y) = \sigma\left[c_1 \frac{u}{\sigma} + c_2 \exp\left(-\frac{u}{\sigma} \right) + (c_3 - c_2)\exp\left(-\frac{u+y}{\sigma} \right) \right] \tag{24}$$

and the value of u that minimizes (23) is the one that satisfies

$$c_2 \exp\left(-\frac{u^*}{\sigma}\right) + (c_3 - c_2)\sum_{y=0}^{\infty} p(y) \exp\left(-\frac{u^* + y}{\sigma}\right) = c_1. \tag{25}$$

If $p(y=0) = 1$, then

$$u^* = \sigma \ln\left(\frac{c_3}{c_1}\right) \tag{26}$$

and

$$C(u^*) = c_1\left[1 + \ln\left(\frac{c_3}{c_1}\right)\right]\sigma. \tag{27}$$

Parametric uncertainty. Consider the case when the parameter σ is unknown. Let $X_1 \le ... \le X_n$ be the past observations (of the daily demand for tours) from the exponential distribution (21). Then

$$S = \sum_{i=1}^{n} X_i, \tag{28}$$

is a sufficient statistic for σ; S is distributed with

$$g_\sigma(s) = [\Gamma(n)\sigma^n]^{-1} s^{n-1} \exp(-s/\sigma) \quad (s > 0), \tag{29}$$

To find the best invariant decision rule u^{BI}, we use the invariant embedding technique (Nechval and Vasermanis, 2004; Nechval, N.A., Berzins, Purgailis, Nechval, K.N. and Zolova, 2008; Nechval, N.A., Nechval, K.N., Danovich and Liepins, 2011; Nechval, N.A., Nechval, K.N. and Purgailis 2011; Nechval, N.A., Nechval, K.N., Purgailis, Rozevskis, 2012; Nechval, N.A., Purgailis, 2012). to transform (24) to the form, which depends on the pivotal quantity $v=s/\sigma$, the ancillary factor $\eta=u/s$ and y/s,

$$C(u, y) = \sigma\left[c_1 \frac{u}{s}\frac{s}{\sigma} + c_2 \exp\left(-\frac{u}{s}\frac{s}{\sigma}\right) + (c_3 - c_2)\exp\left(-\frac{u+y}{s}\frac{s}{\sigma}\right)\right]$$

$$= \sigma\left[c_1 \eta v + c_2 \exp(-\eta v) + (c_3 - c_2)\exp\left(-\eta + \frac{y}{s}\right)v\right] = C(\eta, y, v \mid s). \tag{30}$$

We find the expected overall costs for the statistical decision $u=\eta S$ as

$$C(\eta \mid s) = \sum_{y=0}^{\infty} p(y) C(\eta, y \mid s), \tag{31}$$

where

$$C(\eta, y \mid s) = \int_0^\infty C(\eta, y, v \mid s) g(v) dv,$$

$$= \sigma \left[c_1 \eta\, n + c_2 \frac{1}{(1+\eta)^n} + (c_3 - c_2) \left(1 + \eta + \frac{y}{s} \right)^{-n} \right], \tag{32}$$

$$g(v) = [\Gamma(n)]^{-1} v^{n-1} \exp(-v) \quad (v > 0). \tag{33}$$

The value of η that minimizes (31) is the one that satisfies

$$c_2 \frac{1}{(1+\eta^*)^{n+1}} + (c_3 - c_2) \sum_{y=0}^{\infty} p(y) \left(1 + \eta^* + \frac{y}{s} \right)^{-(n+1)} = c_1. \tag{34}$$

Thus,

$$u^{\mathrm{BI}} = \eta^* S. \tag{35}$$

If $p(y=0) = 1$, then

$$\eta^* = \left(\frac{c_3}{c_1} \right)^{1/(n+1)} - 1 \tag{36}$$

and

$$C(\eta^* \mid s) = \sigma \left[c_1 \eta^*\, n + c_3 \frac{1}{(1+\eta^*)^n} \right] = c_1 \left[\left(\frac{c_3}{c_1} \right)^{1/(n+1)} (n+1) - n \right] \sigma. \tag{37}$$

Comparison of decision rules. For comparison, consider the maximum likelihood decision rule that can be obtained from (26) as

$$u^{\mathrm{ML}} = \hat{\sigma} \ln \left(\frac{c_3}{c_1} \right) = \eta^{\mathrm{ML}} S, \tag{38}$$

where $\hat{\sigma} = S/n$ is the maximum likelihood estimator of σ,

$$\eta^{\mathrm{ML}} = \ln \left(\frac{c_3}{c_1} \right)^{1/n}. \tag{39}$$

Since u^{BI} and u^{ML} belong to the same class

$$\mathsf{C} = \{u : u = \eta S\}, \tag{40}$$

it follows from the above that u^{ML} is inadmissible in relation to u^{BI}. If, say, c_1=50, c_3=3500 (in terms of money), and n=1, we have that

$$\mathrm{rel.eff}_{\cdot C(\eta|s)}\{u^{\mathrm{ML}}, u^{\mathrm{BI}}, \sigma\} = C(\eta^* \mid s) \big/ C(\eta^{\mathrm{ML}} \mid s)$$

$$= \frac{c_1 \eta^* n + c_3 \dfrac{1}{(1+\eta^*)^n}}{c_1 \eta^{\mathrm{ML}} n + c_3 \dfrac{1}{(1+\eta^{\mathrm{ML}})^n}} = 0.90. \tag{41}$$

Thus, in this case, the use of u^{BI} leads to a reduction in the expected overall costs of about 10 % as compared with u^{ML}. The absolute expected overall costs will be proportional to σ and may be considerable.

Predictive inference. It will be noted that the predictive probability density function of the daily demand for tours, X, which is compatible with (15), is given by

$$f(x \mid s) = \frac{n+1}{s}\left(1 + \frac{x}{s}\right)^{-(n+2)} \quad (x > 0). \tag{42}$$

Using (42), the predictive overall costs are determined as

$$C^{(p)}(u \mid s) = \sum_{y=0}^{\infty} p(y) C^{(p)}(u, y \mid s), \tag{43}$$

where

$$C^{(p)}(u, y \mid s) = c_1 u + c_2 \int_u^{u+y} (x-u) f(x \mid s) dx + \int_{u+y}^{\infty} [c_2 y + c_3 (x-u-y)] f(x \mid s) dx$$

$$= \frac{s}{n}\left[c_1 \frac{u}{s} n + c_2 \left(1 + \frac{u}{s}\right)^{-n} + (c_3 - c_2)\left(1 + \frac{u}{s} + \frac{y}{s}\right)^{-n} \right], \tag{44}$$

which can be reduced to

$$C^{(p)}(\eta, y) = \frac{s}{n}\left[c_1 \eta\, n + c_2 \frac{1}{(1+\eta)^n} + (c_3 - c_2)\left(1 + \eta + \frac{y}{s}\right)^{-n} \right]. \tag{45}$$

Thus, It follows from (32) and (45) that u^{BI} can be found immediately from (43) as

$$u^{\mathrm{BI}} = \arg\min_u C^{(p)}(u \mid s). \tag{46}$$

4. Conclusions and Directions for Future Research

In this paper, we propose a new technique to improve or optimize statistical decisions under parametric uncertainty. The method used is that of the invariant embedding of sample statistics in a performance index in order to form pivotal quantities, which make it possible to eliminate unknown parameters (i.e., parametric uncertainty) from the problem. It is especially efficient when we deal with asymmetric performance indexes and small data samples. More work is needed, however, to obtain improved or optimal decision rules for the problems of unconstrained and constrained optimization under parameter uncertainty when: (i) the observations are from general continuous exponential families of distributions, (ii) the observations are from discrete exponential families of distributions, (iii) some of the observations are from continuous exponential families of distributions and some from discrete exponential families of distributions, (iv) the observations are from multiparametric or multidimensional distributions, (v) the observations are from truncated distributions, (vi) the observations are censored, (vii) the censored observations are from truncated distributions.

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Paper received: May 15th, 2014
Approved for publication: June 1st, 2014

Rad primljen: 15. maj 2014.
Odobren za štampu: 1. jun 2014.

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OPTIMIZACIJA U USLOVIMA NEIZVESNOSTI SA PRIMENAMA U UPRAVLJANJU LJUDSKIM RESURSIMA U TURIZMU

S a ž e t a k

Brojni problemi koji nastaju prilikom planiranja, proizvodnje, zakazivanja, lokacija, transporta, finansija i potrebnom inžinjerskom dizajnu, zahtevaju da se odluke donose s dozom neizvesnosti.

Za poboljšanje i optimizaciju odluka, predložena je jedna nova tehnika. Ona predstavlja jednostavnu i atraktivnu statističku metodu koja se bazira na osnovu konstruktivnog korišćenja matematičke statistike. Suprotno Bajesovskom pristupu, ova tehnika ne dozvoljava slobodu izbora ali dopušta eliminaciju nepoznatih parametara u odnosu na problem.

S ciljem predstavljanja primene predloženih tehnika razrađeni su problemi koji se pojavljuju prilikom upravljanja u turizmu, na primeru kompanije koja pruža usluge prevodilaca/vodiča turistima.

Ključne reči: optimizacija, problem upravljanja ljudskim resursima

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UDC 005.35
Original scientific paper

SOCIAL RESPONSIBILITY, SUSTAINABILITY AND MICRO-ENTERPRISES: CONTRIBUTIONS MADE BY A MICRO-ENTERPRISE

This article presents the experience of a small environmental consultancy company when adopting the concept of Social Responsibility. The goal is to encourage other businesses to accept the challenge of overcoming social and environmental problems to build sustainable societies. We will show how companies, even small ones, can work with transparency, valuing employees and staff, improving its environment continually, bringing together partners and suppliers, protecting consumers, promoting its community, and committing to the common good. The company mentioned in this article achieved these purposes by building ‚social bridges' among institutions of various fields and locations in the metropolitan region of Rio de Janeiro.Gênesis Environmental Education Centre is a consultancy firm whose mission is to educate about sustainability, through environmental education activities, aimed at various segments of society. It was created in 2005 and is located in Tenente Elias Magalhães street, 140, Colubandê, São Gonçalo, in an area of ecological interest due to the existence of threatened species, the Atlantic forest, streams and a spring. Gênesis Centre is always concerned about environmental issues and, since its implementation, it has conducted activities aimed at schools, businesses, and religious institutions. The main activities are training courses, workshops, development and implementation of projects, environmental education, and nature trails. The Centre promotes education for sustainability through the concept of Social Responsibility, applied as a guiding principle for all activities and networks. The company follows guidelines organized by Ethos Institute regarding Social Responsibility.

Key words: companies, social responsibility, sustainability

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1. Introduction

This article was developed based on partial results of a research that has been carried out in the metropolitan region of Rio de Janeiro (RMRJ) since 2010. We aim to investigate how Brazil has faced the challenges of overcoming unsustainable urban spaces and building sustainable cities. Results showed that Brazil has adopted strategies that include the elaboration of documents, and planning of actions to be performed by participants, such as universities, companies, and NGOs. This article presents the experience of a micro-enterprise in the field of environmental consultancy. We emphasize the adoption of the Social Responsibility concept in partnership with several institutions, particularly Universidade Federal Fluminense (UFF). Our purpose is to show that even small companies can adopt values and work with transparency. Any enterprise should value employees, improve its work environment, invest in networking, protect costumers, help community, and commit to the common good. We aim to motivate other small companies to participate in the challenge of overcoming socio environmental problems and building sustainable societies. To achieve this goal, we will not only explain the process, but also present contributions made by the university so that new companies can feel interested in participating, via university extension.

According to Correa (2013) 'extension' is defined as an educational, cultural and scientific process that brings together teaching and research inseparably, enabling a transforming relationship between university and society. Extension in public universities is systematized in the following thematic areas: Communication, Culture, Human Rights and Justice, Education, Environment, Health, Technology and Production, and Work.

Each thematic area is developed following defined programmatic lines where interdisciplinarity is stimulated, which foresees the existence of thematic interfaces and interactions. Special emphasis is given to the participation of university sectors of extension in the preparation and promoting of public policies. These policies aim to assist the population, improve education and public services, and open up new processes of production, innovation and knowledge transfer. Thus, access to knowledge is facilitated, contributing to the technological and social development of the country.

Universidade Federal Fluminense is located in Niterói, Rio de Janeiro. Like most of Brazilian universities, UFF kept apart from social issues. This situation started changing in the '90s, when teachers began to approach the community by developing activities in the area of education and health. In 1999, the National Plan of Extension (PNE) was signed, promoting these activities. Currently, they are performed in several places, following the guides established by PNE:

Impact and transformation: Establishment of a relationship between universities and other sectors of society aiming at transforming performance. This

performance should focus on the interests and needs of the majority of the population. It should also create public and regional development policies.

Dialogic Interaction: Establishment of a dialogue between universities and social sectors enabling two-way actions, and exchange of knowledge. Thus, the speech of academic hegemony can be overcome, enabling partnerships with social movements to surmount inequalities and exclusion.

Interdisciplinarity: Interaction of models, complementary concepts, analytical material and methodologies, seeking theoretical and operational consistency. It aims to structure the performance of participants in the social process and enable the interaction among organizations, professionals, and people.

Education - Research - Extension: Every action related to extension must be linked to the education process and the production of knowledge. Students must assume their role as main agents in their technical training, not only to learn required skills, but also to become conscious professionals and citizens. Thus, they recognize themselves as responsible for their rights and responsibilities, adopting a transforming view towards society.

These guidelines helped universities assume their institutional role in the solving of problems in partnership with other sectors of society. Universities approached members of health, transportation, and housing forums; groups representing gender, ethnicity, and environmental issues; and campaigns for underprivileged groups, such children, adolescents, and the elderly.

It is worth mentioning that universities showed their commitment during a remarkable moment in the Brazilian scenario: the increase of peripheral areas in the urban centres, due to the growing poor population in the cities and big metropolises. Of a population of nearly 33 million poor, 35% were in cities and 41% in metropolises. Currently, Brazilian cities have gone through transformations caused by the inclusion of Rio de Janeiro, São Paulo, and Brasília in the context of global cities. This insertion creates new urban territoriality, frequently deepening spatial segregation. (Santos, 2005).

2. Social responsibility

During the 1980s, Brazilian companies began to recognize the importance of adopting practices of Social Responsibility. This recognition was enabled by the approach between private sectors and social movements. The sociologist Herbert de Souza, known as Betinho, launched the national campaign Citizens' Action against Hunger, Poverty and for Life, counting on the institution Pensamento Nacional das Bases Empresariais (PNBE) as a supporter [PNBE is a non-corporative business entity that fights for the interests of the population]. In the 1990s, non-governmental organizations help to consolidate practices of Social

Responsibility. Among these organizations, IBASE stands out for the dissemination of the social accounting process and the creation of ETHOS Institute.

Social Responsibility is the obligation a company has to participate in the process of overcoming socio-environmental problems through actions, as Chiavenato says:

„Social Responsibility is the level of obligations an organization has to take actions to protect and improve the well-being of society as it seeks to achieve its own interests". (Chiavenato, 2004, p. 119)

Social Responsibility can be one of the paths to be followed to promote sustainability. Currently, several companies have adopted the concept. In this process, six stages are identified according Garcia (2006).

STAGE 1: The organization does not assume responsibilities towards society and does not take actions to favour responsible citizenship. There is no promotion of ethical behaviour.

STAGE 2: The organization presents some isolated actions to minimize problems, recognizing the impacts caused by its products, processes and facilities. Occasionally, it promotes ethical behaviour.

STAGE 3: The organization begins to elaborate processes to assess the impacts of its products, process, and facilities. It also demonstrates some leadership dealing with important issues to the community. People get involved in efforts for social development.

STAGE 4: The process of assessing the impacts of products, processes and facilities is in phase of systematization. The organization demonstrates leadership in important issues to the community in various ways. Frequently, people get involved in efforts for social development. The organization promotes ethical development.

STAGE 5: The process of assessing the impact of products, processes and facilities is systematized, enabling the prediction of public problems. The organization leads issues of interest to the community and the industry. The company systematically motivates people to get involved in efforts for social development. There are implemented methods to evaluate and improve the performance of the organization in the exercise of responsible citizenship, and in the treatment of its public responsibilities.

Large companies are at this last stage. They conduct projects in the communities where they are located. These companies focus on themes related to the needs of the community and its routine, like the training of workforce and the fight against violence, through projects to create jobs and income. Small companies are at stage 1 and 2.

2.1. Micro-enterprises and Social Responsibility: Gênesis Centre

According to Sebrae-SP, there are 5.1 million companies in Brazil. Of this total, 98% are micro and small businesses (MPEs). Small businesses (formal and informal) account for more than two-thirds of industry occupations. These firms are fundamental in promoting economic growth, generating jobs and income, and improving quality of life. Their contributions are acknowledged mainly because of the the exposition enabled by this type of business, and the employment of workforce, including those who has difficulties to participate in the labour market, like young people seeking their first job and people over 40. Small companies give dynamism to the economy of cities and neighbourhoods. Recent data from IBGE inform that MPEs represent 20% of the Brazilian GDP. Additionally, they are responsible for 60% of 94 millions of jobs in the country, and represent 99% of 6 millions of formal business in Brazil.

The participation of MPEs in the total of profitable business in Brazil has increased. While businesses, regardless their size, had an annual total of 4% growth, small firms grew 6.2%, and micro ones 3,8%, between 2000 and 2008. In the same period, MPEs were responsible for nearly half of the total of formal jobs generated, that is, 4.5 million jobs.

The concept of Social Responsibility has been adopted on a slow path, because companies lack resources to be employed in activities that are not directly related to its business processes. Additionally, most of the time these companies do not present enough knowledge in management to improve results. FIRJAN and ETHOS Institute elaborated a step-by-step plan to motivate micro and small firms to adopt the concept. Gênesis Centre used this guide for its activities. This centre works as a consultancy company whose mission is to offer programmes and projects to its customers. The aim is to promote education for sustainability, thus contributing to create autonomous and critical individuals with ethical values.

It also helps to create participative, transparent and fair institutions; to involve communities in collective interests towards tolerance and equity; to encourage environmental practices that preserve biodiversity and develop ecological processes to sustain life. Gênesis Centre has a sustainability council, formed by masters and PhDs from Brazil and abroad responsible for building a sustainability policy.

It was created in 2005 and is located in Tenente Elias Magalhães street, 140, Colubandê, São Gonçalo (a city from the metropolitan region of Rio de Janeiro). The territory of São Gonçalo has 248, 72 km, thus corresponding to 4.4% of the metropolitan region. According to statistics from the 2000 census, the city has approximately 1 million inhabitants with a population density of 3.577,9 people per Km. The main access is by BR 101 and RJ 104, which faces the city of Nite-

rói, to the south, and Itaboraí, to the north. São Gonçalo has 90 neighborhoods distributed in 5 districts: São Gonçalo, Ipiiba, Monjolos, Neves and Sete Pontes.

The neighbourhood of Colubandê has about 95,000 inhabitants and is located in the headquarter district of São Gonçalo. It presents 3 different areas:

Central Area - The most valued area where most services, companies, and markets are located.

Historic Area - It is located along RJ 104 highway, and is considered historic because the neighbourhood derived from it. An important milestone in this place is Colubandê Farm, where the Forestal Battalion is currently located.

Intermediate Area - between the end of Salvatori (Makro and CCPl) and the borders of Rocha neighbourhood. This area is integrated by Água Mineral sub-neighbourhood, formed by several lots demarcated in the '50s and '60s. This area had a relevant importance in São Gonçalo from 1940 to 1960 because of a company of mineral water. The closure of the factory caused a significant decline in the area. The situation worsened in the following years due to violence, especially coming from ‚extermination groups'. Even nowadays, the whole area suffers the stigma of being a violent local.

Genesis Centre is located in this area and develops projects to assist schools, companies, and religious institutions. The principal activities are training courses, workshops, environmental education, and environmental trails. The company has four employees, three of them live in the community. Like most of the locals, they quit school early and entered the labour market. However, all of them are encouraged to return to school, and take training courses to become qualified professionals.

Since its beginning, Gênesis Centre has socio-environmental issues as one of its main concerns. The focus is on Social Responsibility, because it promotes education for sustainability. Very early directors noticed that it would be very important to employ this concept in all activities and networks. For this reason, the strategy of Social Bridges[1] was adopted. The partnership with UFF was established through the integrated program of research and extension Underprivileged Urban Childhoods, Environmental Education and Sustainability, and through the research group HIDROUFF.

The company follows guidelines organized by Ethos Institute: Adoption of values; work with transparency; valuing employees and collaborators; continual improvement of the environment; involvement of partners and suppliers; protection of customers and consumers; promoting the community; and commitment to the common good. Of these items, only the protection of customers has not been dealt yet.

Gênesis' mission requires commitment to socio-environmental issues regarding the community, the city, the region, and the planet. It also aims at the building of sustainability. We follow an expanded and progressive conception of

[1] It is the union between companies aiming to seek solutions for social demands.

sustainability. The first concept considers sustainability a pragmatical process of sustainable development. The second introduces new dimensions that provide an understanding that goes beyond economic and environmental issues. Thus, sustainability can be thought according to specificities of each country or region. In Brazil, this last concept helps us think about sustainability from an ethnic and racial point of view, considering inequalities experienced by the afro-descendant population. We work with the following main dimensions:

Environmental Sustainability: It refers to the capacity of the environment to absorb aggressions caused by human actions, or recover from them. It also seeks a balance between emission rates and/or production of residues, and absorption rates and/or regeneration of natural resources.

Ecological Sustainability: It refers to the physical base of the growth process and aims at the preservation and the conscious use of supplies of natural resources.

Cultural Sustainability - It is the need to support cultural diversity and practices existing in different regions of the world. These practices build the identity of nations.

Social Sustainability - It aims to improve quality of life, reduce social exclusion rates, through public policies related to redistributive justice.

Political Sustainability - It refers to the building of full responsible citizenship for individuals through the strengthening of democratic devices to formulate and implement public policies on a global scale. It also refers to government and governance on a local, national, and global scale.

Institutional Sustainability - It aims to design and strengthen engineering courses that take into account criteria related to sustainability.

3. Geênesis centre and the University

Genesis Centre participates in extension activities of the programme Underprivileged Urban Childhoods, Environmental Education and Sustainability, and also of the research group HIDROUFF, line of research Environment, Sustainability and Social Responsibility.

Prior to the implementation of Gênesis Environmental Education Centre, Colubandê neighbourhood was degraded due to sand and wood extraction, to produce coal, and frequent forest fire. There was also hunting for small animals and felling of trees for construction. Due to degradation, many plant species died out and a fountain virtually dried up. The main environmental problems of Colubandê are social curtailment of children and adolescents, pollution caused by garbage, and destruction of biodiversity.

3.1. The social curtailment of children.

It refers to limitations on the formation of children's human capital. This concept is used in Economics to refer to a stock of skills that begins to be built in childhood and adolescence. Each individual will accumulate the amount of skills equivalent to his/ her inborn talents, private and public resources. (Barros and Mendonca, 1995)

The authors suggest three situations in which the accumulation can occur: existence of private and public resources, existence of public resources, and inexistence of public and private resources.

Segregated spaces, like Colubandê, belong to the third group: their population cannot afford educational and cultural services. To make things worse, government do not provide these services in a satisfying way, either in quantity or in quality. Schools are examples of inefficient service offered by governments. In many cases, constructions are precarious: small rooms, low ceilings, bathrooms in bad conditions, and ugly architecture.

Although some segregated neighbourhoods are near places that offer various services, their residents do not have access to them. It happens because residents from segregated neighbourhoods are not aware of the existence of these services, or are denied access to them. There are some concrete impediments: lack of sufficient resources to commute to other places, lack of company, or symbolic reasons.

The insufficient provision of educational and cultural services compromise children's human capital. This capital could offer qualified work force in the future, and could also offer the young better salaries. Instead, these teenagers will probably get low paid jobs that require poor qualification. Thus, they will be fated to stay at the same social and physical environment they were raised, as Bordieu confirms (1997):

"... those who do not have a good financial condition [and do not receive investments] are kept apart, physically or symbolically, from rare social wealth and condemned to live with undesirable, and less rare, wealth and people. The lack of investment intensifies the experience of finitude: it attaches the individual in one place". (Bordieu, 1997, p. 26)

We noticed that a precarious environment can cause a feeling of indignity, which is expressed through violence, making the individual lose opportunities in the place he/she lives, mainly at school. That is why we develop activities to improve self-esteem and to fight the social curtailment of children. The media is frequently reporting violent acts commited by children and adolescents from Colubandê at home, in the community, at school, and parties. That is the only situation in which these individuals are given prominence. Our strategy was to

give them visibility because of positive attitudes, exposing materials produced by these children and teenagers: texts containing protest messages organized in small books and posters. These books were published and have been used as teaching material in schools. Some texts were translated into French and presented at a panel discussion about urban childhoods in Brazil and in France, at Aliança Francesa (a French course in Niterói), as part of celebrations of the International Year of France in Brazil. Additionally, these children and adolescents participated in a video-clip that has been broadcast in several countries including Germany, which is using it at schools.

3.2. Environmental Pollution caused by garbage.

Although there is regular garbage collection, part of the population through garbage in derelict lands, and into the river that crosses the neighbourhood. Thus, garbage is always present in the landscape of Colubandê. The river, once used for leisure, is now polluted with plastic bottles and sewage. When there is heavy rain, the river overflows its banks and goes into nearby houses. Lands that could be used as sport courts or even squares are full of garbage, disseminating diseases and degrading the landscape. The campaign E se não tivesse Lixo? (If no garbage existed?) was created to face this situation. The initiative counted on the participation of children from 3 schools of the neighbourhood and was conducted with lectures, groups of discussion, production and distribution of materials. As a result, the amount of garbage had a significant reduction in the neighbourhood and schools.

3.3. Destruction of biodiversity.

Colubandê presents a framework of degradation due to the extraction of sand and wood, for coal production, and frequent forest fire. There was also hunting for small animals and felling of trees for construction. Most of the population, especially the young, participated in the process of degradation, because they were unaware of the ecological, environmental, and historic importance of the area. Due to degradation, many plant species died out and the fountain virtually dried up.

With the implementation of Gênesis Centre, however, this situation changed, and there is no more hunting either sand extraction. Only forest fires remain, because many of them are caused by hot-air balloons. A campaign was organized in 2010 to encourage children to plant trees, using seedlings and seeds distributed by Gênesis Centre.

Besides these actions, many others have been developed. This is only possible through the establishment of partnerships, as showned in the following table.

Table 1: *Summary table of activities*

GUIDELINE	ACTIONS AND PARTNERS
Adoption of values and transparency	Choice of mission aligned with sustainability
Valuing employees	Encouraging the return to school
	Opportunity for training in the environmental area
Actions in favour of the environment	**Campaigns about garbage**
	Universidade Federal Fluminense
	Faculdade Batista of Rio de Janeiro
	Campaign about water
	Universidade Federal Fluminense
	Faculdade Batista of Rio de Janeiro
	Campaign to encourage the planting of trees in the community
	Universidade Federal Fluminense
	Faculdade Batista of Rio de Janeiro
	Evangelical institutions
	Distribution of seedlings and seeds for the metropolitan region of Rio de Janeiro
	Makro supermaket chain
	Municipal plant nursery
Promoting the community	**Projects for children**
	Universidade Federal Fluminense

4. Conclusions

Results achieved by these activities show that micro-enterprises can develop activities aligned with Social Responsibility concepts, contributing to the building of sustainability. The lack of technical staff and financial resources can be supplied with partnerships with companies of various areas. Each one of them can contribute providing dissemination channels, financial resources, qualified personnel, and information on the topics to be treated. Like Gênesis Centre, other small companies can establish partnerships with universities to empower their actions. Research shows that many small and micro-enterprises are located in suburban neighbourhoods of large cities, places that present a series of problems regarding socio-environmental issues. The social curtailment of children and adolescents is one of the most urgent problems to be tackled. Activities like projects and courses can help children to overcome vulnerabilities and become propagators of sustainability.

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Paper received: May 15th, 2014
Approved for publication: June 1st, 2014

Rad primljen: 15. maj 2014.
Odobren za štampu: 1. jun 2014.

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DRUŠTVENA ODGOVORNOST, ODRŽIVOST I MIKRO-PREDUZEĆA: DOPRINOSI JEDNOG MIKRO-PREDUZEĆA

S a ž e t a k

Članak predstavlja iskustvo jedne male konsultantske firme za ekologiju prilikom usvajanja koncepta socijalne odgovornosti. Cilj je da se da podstrek drugim firmama da prihvate izazov u prevazilaženju socijalnih i ekoloških problema ka izgradnji održivih društava.U radu je pokazano kako firme, čak i male, mogu raditi transparentno, ceneći svoje zaposlene i drugo osoblje, stalno unapređujući svoje ekološko okruženje, zbližavajući svoje partnere i dobavljače, štiteći potrošače, promovišući svoju zajednicu i opredeljujući se za opšte dobro. Firma koja je u ovom članku pomenuta uspela je da izgradi ove principe gradeći takozvane „društvene mostove” između institucija različitih namena i lokacija u širem području Rio de Žaneira. Genesis Environmental Education Centre je konsultantska firma čiji je cilj da obrazuje u polju održivosti, kroz obrazovne aktivnosti o ekologiji, a namenjene raznim segmentima društva. Formirana je 2005. g. i nalazi se u ul. Tenente Elias Magalhaes 140, Kolubande, Sao Gonkalo, u ekološki interesantnom kraju gde postoje ugrožene vrste, Atlantska šuma, potoci i izvor. Genesis centar se bavi ekološkim pitanjima, i od nastanka su izveli aktivnosti usmerene ka školama, firmama i verskim institucijama. Osnovne aktivnosti su obrazovni kursevi, radionice, razvoj i implementacija projekata, obrazovanja o ekologiji i specijalno razvijeni puteljci kroz prirodu. Centar promoviše obrazovanje za održivost kroz koncept „Socijalne odgovornosti“, držeći se tog principa u svim aktivnostima i mrežama. Firma se drži smernica organizovana od strane Instituta Ethos, o Socijalnoj odgovornosti.

Ključne reči: firme, društvena odgovornost, održivost

Carlos Andrés Martínez Beleño*

UDC 338.1(8) ; 502.131.1
Original scientific paper

ABOUT CHALLENGES OF THE MODERN WORLD: HEALTH, ENVIRONMENT AND SOCIAL DEVELOPMENT AMERICA LATINA CASE

The XXI century brings social and environmental unquestionable imbalance; therefore, current world is becoming in an imminent challenge: to reach social and economic progress for upgrading all human beings quality of life and prosperity.

In this context, economic, social and environmental Latin America´s evolution turns in a continuing instability so that results in important changes and transformations, strengthening its development and sustainability.

As for developing communicational and educational basic research was oriented; this was a descriptive and qualitative study based in multiples cases. Also, governmental data from Chilean Health Ministry, Colombian Health and Social Protection Ministry, General Health Promoter Management of Mexico and Bolivian Health and Sports Ministry was analyzed. Conclusions indicated agricultural industry, property, healthcare programs and cities advance according to governmental purpose (social and economic responsability) for energizing local and regional development, facilitating healthy, productive and sustainable systems and processes to the people.

Therefore, empowering the community about development like a social project oriented to the most vulnerable people, allowing interaction between economic, social and environmental factors, according with global context, becomes neccesary.

Key words: health, environment and development social

1. Introduction

The communication for Development concept recognizes that the protection of social, economic and environmental capitals are essential for achieving a productive development. In this sense, from the Communication and Development Project: a look at the Governmental Health Programs in Latin America. Cases: Bolivia, Chile, Colombia and Mexico some thoughts about the dynamics of development are provided to the general public to participate in a wellness facilitate its possibilities and options to your amp. In the same way,

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it is necessary to recognize the communication as an important and necessary element in any development intervention, as it seeks to create spaces where individuals and their social environment can generate new imaginary scenarios.

From that perspective, communication management strategies for development, in order to get results in a healthy, productive, sustainable, sustainable society is a challenge that must be assumed from any individual, industry, community, either locally regional or national. In this connection, the Latin American case is difficult or almost unapproachable, having into account the dynamics presented in this region. The region is changes frequently and therefore management depending on how healthy, productive, sustainable and sustainable it is limited to meet the basic needs of the vulnerable population as they simply lack a model of urban planning but not only, social, political and economic transformation ever.

Nowadays, the phenomenon of globalization as a challenge, particularly for developing countries that in their eagerness to achieve development working for an independent business and cultural openness is studied. Under this, Gumucio (2001) emphasizes that communication processes, as more human version that is dialogue, or in their organizational and media projections, are a tool to support the transformations in which the man is the center. There is no economic, social or political development that does not have the middle man.

It is therefore conceivable that the irrefutable globalization model requires that each country, sector or economic system interested in participating plan and structure your needs, strengths and weaknesses, this translates to own and maintain a modern public management, a solid productive method, invest in science and technology innovation, formalization of work, education and training human talent to encourage and sustain the industrial and corporate processes and last being socially responsible.

Thus, Gonzalez, (2008) states that the many dimensions of the relationship with the environment are almost eclipsed by the dominant economic approach. This also shows that some perspectives emphasize the importance of not only working on the environment, "external", but also consider the relationship between people and the environment (related to "interior landscape").

2. About challenges of the modern world for Latin America

The economy of countries, companies and individuals are now conditioned by unchanging external forces, it is called globalization, which by its very nature leads to late opening competitiveness and economic growth.

To that extent, any system, structure or society want a development conducive to their own livelihood, ie interact cordially with environmental, cultural, social and economic not face each other, but conveniently coinciding and responding

to the needs of context, which ultimately are the inclusion, equity, participation, quality education, access to services to meet unmet basic needs, among others. It looked that way, it is pertinent that as society, other actors from interfering in the sustainability of plans, projects and programs created to balance the above, otherwise is unthinkable achieve sustainability of not only economic, social, political, cultural or environmental but human.

Thus, Gonzalez, E. et al. (2008) states that the many dimensions of the relationship with the environment are almost eclipsed by the dominant economic approach. This also shows that some perspectives emphasize the importance of not only working on the environment, "external", but also consider the relationship between people and the environment (related to "interior landscape"). Others insist on the critical investigation of the root causes of the socio-ecological problems in the deconstruction of agendas "development" and the creative search for alternatives.

From this perspective, the environment has established itself as one of the most debated issues in political, economic and academics throughout the global sphere encounters, besides arousing the interest of private organizations, companies and associations that analyze the environmental risks inherent in the human.

In connection with the above, the environmental problems in Latin American developing countries come to be determined by the combination of three variables: the external, traditional and industrial development and capitalization. The environmental problems are both problems generated by the development and modernity and problems of backwardness and shortage.

The development of large Latin American cities from all dimensions is linked to the processes of industrialization (Gligo, 2001). For this it is necessary to mention that current cities have deep problems of planning, which leads us to show according to Sandia, (2009) when he says that the lack of comprehensive city planning makes the disorganization and chaos, as consequence of the social and economic dynamics, are in many respects the dominant axis in the development of it.

Consistent with the above, Vergara (2009) states that cities grow both a planned decision, planned and executed by an administrative political entity as the decision of its inhabitants, which makes the object of study of geography, ie, the space and the relationship established in him can not ignore the how, why and who uses the space and make it their territory of life. This ensures that even in a globalized world, where social, economic, political and cultural relationships occur at exponential rates, more rapid, more mediated, but at the same time, and that is the question, more specialized.

Consistently, the important thing is that the organization and planning of cities carried out thinking in terms of sustainability, to result in sustainable

urban development, for any geographic space opportunities is in the ability to provide and expand or options of all inhabitants to the collective welfare.

In that measure, Santos (2000, p.67) cited by Vergara (2009) states that in the world of globalization, the geographic space gains new outline, new features, new definitions. And also new importance, because the effectiveness of actions is closely related to their location. The different social, environmental and economic dynamics and the need to move towards globalization lead to regional cities in particular trigger problems of Latin American urban land use planning, leading to the relocation of residential areas, deforestation and loss of reserves forest, indiscriminate expansion of avenues for commercial purposes pollution throughout their expressions and even leading to extreme poverty and inequality, all to make way for integrated systems development, which constantly affect the dynamics previously established either by political, economic or media by the inhabitants.

For Sanchez, (1984) Latin America has gone from an agrarian, rural society to an increasingly urban society, cities. This transition has been uneven across countries and within them. The Latin American city but has accompanied industrialization has accelerated over the past forming process. Its growth has been almost always extensive and impressive demographic concentration.

The already established cities alluding to the Colombian possess major problems of urbanization and planning, leading to a sudden, large green areas, districts, among other national treasures, are disappeared to make way for large-scale political projects -economic as roads, tourist parks, resorts ie development, forgetting to turn on the sustainability of ecosystems and development with environmental or just healthy purposes, leading to chaos and traffic congestion, making Cities slow in mobility, in addition to an even more remote the possibility of achieving escape underdevelopment uncompetitive physical infrastructure, mainly roads and access to basic services. This characterizes the Colombian city. Either way there in Colombia specialized, modern or intelligent cities as the particular case of Medellin. Bogota Capital District even as this is far from.

As far as communication terms in health, environment and facilitate change processes, and is necessary manifest that is not presented to the media as the end to development, but as a medium employed as a strategy horizontally participatory and productive relevant in any area where you need your intervention. From that perspective, is preponderant think the close relationship between citizenship, participation, and development, as the first highly affects the second and both affect the latter.

A reason this, is necessary that at the level of nations and states, set the relationship between development and Growth and Economic, since from communication for development, with a focus on social change, the sustainability is the maximum level of development by which all individuals should move,

which definitely should be paramount for Latin American, under which govern few sustainable models and therefore it will be difficult to achieve that level.

3. Challenges as a health

Table 1: *Challenges as a health*

Strengths	Needs	Risks
1. Proposals Governmental Health: emphasis on Promotion of Healthy Lifestyles	1. More and better coverage of public health services. 2. Change consumer's habits and unhealthy lifestyles 3. Strategies for Health Promotion and Health Education	1. Public Health Collective 2. Prevention of diseases and epidemics 3. Environmental, family and local health

4. Challenges as to environment

Table 2: *Challenges as to environment*

Strengths	Needs	Risks
1. Extensive agricultural production	1. Ecological and healthy production processes	1. Insertion to broad naturaland international markets. 2. Keep green measures according to the current economic demands.
1. FTAs 2. Trade Agreements 3. Active participation in international negotiations and multilateral regimes.	1. The distribution and marketing of processing technologies and ever more efficient distribution. Increase the processes of sustainable development. 2. Educate depending on the socio-environmental sustainability s	1. Regional economic resources (Need to spread progress in the periphery.)
		2. The transition to a solid economy and a competitive and globalized commercial production. 3. Mobility and urban planning. April. The environmental health because of waste and emissions from industry and large-scale construction.

5. Challenges as a social development

Franco (2011) helps us to come up with five ways of understanding the process of social development. These forms are detailed as follows:

Table 3: *Challenges as a social development*

Social Development as:	**Definition:**
Involvement in Society:	Process of advancement of a society that is approaching a desirable goal, involves economic, social, political and cultural aspects.
Human Welfare:	Process that seeks to lift the standard of living and improved public access to goods and services.
Support Social Sectors:	Improving the quality and coverage of quality basic social services such as education, health and housing.
Structural Change:	The process by which inequalities between different social groups are reduced.
Social Support:	Improving the level of satisfaction of basic needs of the population.

This ultimately allows us to conclude that e l as the environmental component and Economic listed as means of ensuring the "future" of these cities as to the consolidation of a sustainable and productive development. To that extent, urban sustainability is conceived as a systemic concept, from which an alternative vision of the city originates, in this system, a settlement has the ability to provide durable and efficient resources that would help offset the inequality depending on the social context. (Lopez, 2008)

6. Conclusions

It is a must for Latin America, as a region in constant transformation, achieve socio-economic and environmental development in cities achieve a process healthy, productive, sustainable, sustainable, where prime fairness and respect, where these prevail suitable for healthy and free development, where human presence is socially just and environmentally sustainable. The sustainable city is, ultimately, a challenge of the current generation and passes through a comprehensive understanding of the city as a living, special and exclusive system that is built every day with planned, participatory and concerted action of its inhabitants.

In this vein, the important thing is that the organization and planning of cities carried out thinking in terms of sustainability, to result in sustainable urban development, for any geographic area is in the ability to provide and expand opportunities or options for all residents.

From that perspective, Sandia, (2009) states that in the case of Latin America, the pursuit of sustainability must also be one of the challenges to be achieved in the coming decades, in order to guarantee all its inhabitants cities for healthy life , decent work and healthy enjoyment, where the individual and the community can achieve increasing levels of development and prosperity. This ultimately would overcome the almost dominant contemporary city, largely overwhelmed by the urban chaos, pollution, crime, violence, and where most, especially the poorest, suffering city rather than live it and enjoy it. (Sandia, 2009).

Looked like a sustainable society with a view to sustainability, should purify itself of pollution, acquire new skills, make your more efficient and sustained production processes, improve their own management, distribute resources equitably and be diversified. (Lopez, 2008). For these reasons, it is inevitable that mobilize society towards sustainability, otherwise social, economic, political, productive and environmental conditions will be pejorative.

Thus, the relationship between the productive and sustainable, viable long survive as the dominant economic model is ductile as facilitate the provision of resources according to the environmental, health and invest in technology, education towards sustainability and not only for life but in life, as the immediate future requires decisive action today in terms of maintaining a satisfactory development, intending to enjoy an environment and a horizontal economically and socially productive.

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Paper received: May 15th, 2014
Approved for publication: June 1st, 2014

Rad primljen: 15. maj 2014.
Odobren za štampu: 1. jun 2014.

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IZAZOVI MODERNOG SVETA: ZDRAVLJE, ŽIVOTNA SREDINA I DRUŠTVENI RAZVOJ SLUČAJ LATINSKE AMERIKE

S a ž e t a k

XXI vek donosi neuravnoteženost u društvu i životnoj sredini. Stoga, sadašnji svet postaje izazov: dostignuti društveni i ekonomski napredak koji će unaprediti živote i dobrobit svih ljudsjih bića.

U tom smislu, evolucija u ekonomskom, društvenom i latinoameričkom stanju životne sredine je u večitoj nestabilnosti, koja uzrokuje važne promene i transformacije, ojačavajući njihov razvoj i održivost.

Ukazala se potreba za razvijanjem komunikacionog i obrazovnog istraživanja na ovu temu: ovo je opisna i kvalitativna studija zasnovana na više slučajeva. Takođe, korišćeni su i analizirani državni podaci čileanskog ministarstva zdravlja, kolumbijskog ministarstva zdravlja i društvene zaštite, meksičkog promotera opšteg zdravlja i bolivijskog ministarstva zdravlja i sporta. Zaključci ukazuju na poljoprivredu, imovinu, programe zdravstene zaštite i gradove koji napreduju u zavisnosti od državne namene (društvene i ekonomske odgovornosti), radi podsticaja lokalnog i regionalnog razvoja, omogućavajući zdrave, produktivne i održive sisteme i procese u društvu.

Stoga se pokazalo kao potrebno da se omogući zajednici da razvija društvene projekte koja se tiču najugroženijih slojeva stanovništva i da se dozvoli interakcija, u globalnom smislu, između ekonomskih i društvenih faktora, kao i faktora životne sredine.

Ključne reči: zdravlje, životna sredina, društveni razvoj

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UDC 005.216:334.012.63/.64
Original scienfitic paper

SMALL AND MEDIUM-SIZED ENTEPRISES IN TERMS OF THEIR GOALS

The strategic management represents current direction of management. It is applied in all types of enterprises, including small and medium sized ones. Using principles of process management within SMEs has its limitations caused mainly by the size of the enterprise and the related focus on operational management. Other specificities are function accumulation, informal leadership, preference for oral communication before written, etc. Nevertheless, implementation of strategic management can increase competitiveness, reduce costs, improve decision-making, facilitate implementation of the employee motivation system, shorten delivery times, higher quality of customer satisfaction, etc. The aim of this article is to find out how much SME includes principals of the strategic management as their aim.

Key words: goals, SME, strategic management

1. Introduction

SMEs are indispensable in all economies, can be described as a driving force of business, growth, innovation, competitiveness, and are also very important employer. In the Czech Republic performed on 31th 12 2011 some business activity 1,066,787 legal and natural persons who are placed in the category of small and medium-sized enterprises. The total number of active enterprises are small and medium-sized enterprises participated in 2011 a total of 99.84%. The share of employees in small and medium-sized enterprises amounted to 60.85% in relation to the employees of the Czech economy. According to Řehoř, in 2007 the small and medium-sized businesses will create and offer new and quality jobs.

According to Srpová (2010), management of small and medium-sized enterprise has many specifics. In small companies due to the small number of employees and managers many functions are accumulated within the competence of

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only a few workers predominates, informal leadership is more common, oral communication is preferred over written, etc. According to a team of authors (2012) however, a high degree of flexibility to adapt rapidly to changing SME factors, it determines the face and reduce the growing globalization tendencies associated with the onset of multinational corporations and chains.

Strategic management, based on long-term forecasts, helping the company to anticipate future challenges and opportunities (Keřkovský and Vykypěl 2006). According Sedláčková, Buchty (2006) strategic management gives clear goals and directions for the future of the company and its workers a sense of security. Strategic management helps to increase the quality of management, leads managers to improve their deciding. Keřkovský, Vykypěl (2006) further states that strategic management helps improve communication in the company, project coordination, staff motivation and improve resource allocation.

Dedouchová (2001) gives two definitions of strategy, traditional and modern. Traditional definitions approaches to understand the strategy of the company as a document in which there are long-term objectives of the company, determined the process of operations and allocation the resources needed to meet these goals. The modern concept sees strategy as the company prepared for the future. The strategy includes the long-term objectives of the company, the process of strategic operations and deployment of enterprise resources needed to meet these goals so the strategies would be based on business needs, take into account the changes in its resources and capabilities, and at the same time adequately respond to changes in the environment of the company. The central concept of strategic management is a strategy that is closely linked to the objectives it tracks. According to Kotler, Keller (2012) strategies express the basic idea of which way the company goals will be achieved. The article deals with the mapping of the fundamental characteristics of SMEs in terms of their strategic management by terms of their aim.

2. Introduction

This article is provided as one of the outputs of the research project „Process management and the possibility of its implementation in small and medium-sized enterprises" of Grant Agency of the University of South Bohemia GAJU 068/2010/S and. and serves as one of the sources for grant GAJU 039/2013/S.

In the research project was used secondary data (financial statements of SMEs who took part in the research) and primary data which was obtained primarily through quantitative methods questionnaire supplemented by qualitative method of in-depth interviews. For the classification of small and medium-sized enterprises has been used a new definition of the European Union (European Commission: A new definition of SMEs 2006) in accordance with the Law No.

47/2002 Coll. as amended. This system has been adapted for the needs of the research, according to the following table number 1, where the group of small businesses was divided into two groups according to the number of employees in order to achieve detailed breakdown. In the South bohemian region was registered in 2011 68,826 economic entities from the selected category.

Table 1: *Classification of SMEs*
(own processing according to the European Commission 2006)

Enterprise size	Number of employees (Annual Work Unit)	Annual turnover	annual balance sheet
Midium enterprise	50 – 249	< 50 mil. €	< 50 mil. €
Small enterprise	25 – 49	< 10 mil. €	< 10 mil. €
	10 – 24	< 10 mil. €	< 10 mil. €
Micro enterprise	0 – 9	< 2 mil. €	< 2 mil. €

Enterprises with up to 9 employees (micro-enterprises) represent 18% of the total number. Small enterprises represent less than 4% of all the small and medium-sized enterprises in the region. There are registered 78% of medium-sized enterprises within the region (Statistický bulletin – Jihočeský kraj 2011, Statistical bulletin).

According to the legal form of business in the basic aggregate there dominate private entrepreneurs (77%), after that companies (9%), associations (5%), corporations of proprietors and cooperatives (3%), foreign persons (2,5%) and others. (European Commission. Key figures on European business with a special feature on SMEs 2011).

The prevailing business activities according to the classification of economic activities CZ-NACE in the examined aggregate constitute Wholesale and retail (22%). Building industry and industry are represented within the research identically with 13%, within the region there are about 21 000, or 19 000 as the case may be, and so they occupy the second and third position from the point of view of CZ-NACE. Business activities according to CZ-NACE such as section A - agriculture, forestry and fishing, section B - mining and extraction and section I – accommodation, catering and restaurants, were eliminated from the research because of their different perception and management of company processes – these are completely specific groups. There was chosen a research sample from the base aggregate with the method of improbability of random choice by reason of difficult conditions of data collection.

The research sample consists of 187 small and medium-sized enterprises of South Bohemia region. Composition of the research sample according to size (number of employees) and activity is indicated in table no. 2 and 3 and in graph no. 1 and 2.

Table 2: *Chart 1: Composition of the research sample of small and medium-sized enterprises according to number of employees (own survey - GAJU 068/2010/S)*

Number of employees	Number of enterprises	
0 - 9	20	11%
10 - 24	70	37%
25 - 49	36	19%
50 - 249	61	33%

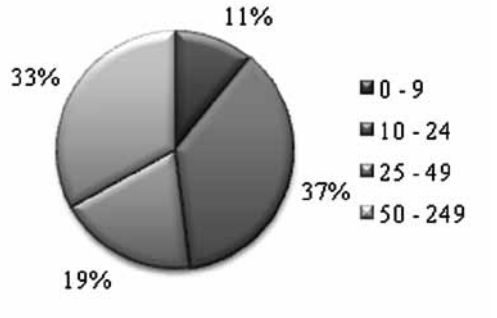
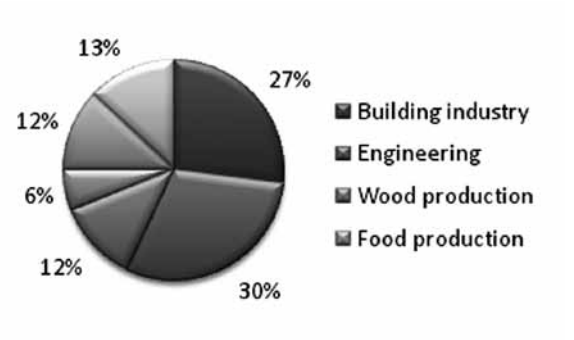


Table 3: *Chart 2: Composition of the research sample of small and medium-sized enterprises according to business aktivity (own survey - GAJU 068/2010/S)*

Activity	Number of enterprises	
Building industry	51	27%
Engineering	57	30%
Wood production	22	12%
Food production	11	6%
Commerce	22	12%
Services and Transport	24	13%



3. Result

Analoui and Karami present (2003) that majority of the small and medium sized companies has formally (as written document) or not formally determined strategy. Presented research brought short term goals and brought also the similar results. Strategy has the goal to push forward the company towards to achieve short term goals and finally to achieve its basic purpose. The goals of the small and medium sized companies are often based on personal goals and preferences of the owners. Determined goals in such a way are logically very subjective, they are often not chosen correctly in comparison with the milieu where the companies create activities. The goal of the company should always correspond with the chosen mission and should put into respect strong and weak aspects of

undertaking, opportunities and distress that the company can use or must face them. In general the goal of the company should answer the basic questions of undertaking and present requested result

In the research sample of the small and medium sized companies in the frame of research there were identified 6 categories of the company goals. The category Quality was dominant. The companies presented for their goal both satisfaction of the customers (also employees) increasing the quality, good name of the company and flexibility. Following most often presented goal was Development, both development of the whole company and separate development of the partial parts. Innovation was also presented as the main goal in this category. Category Stability has also very strong representation the companies presented the whole stability at the market and also stability of prices. In this category the companies also mentioned keeping the number of employees. Another goal is connected with this matter and it is covering the market and survival that was followed in minimum cases. Concerning studying small and medium sized companies goals Profit was, of course, dominant one.

In the chart 4 numerousness of searching of the goals of some small and medium sized companies according to the number of employees is presented. And graph nr. 8 shows these results. Following characteristics can be seen from these results. Concerning micro companies the goals are concentrated on Quality (64 percent), further Development (50 percent), and Stability (41 percent) on the contrary, no company follows the goal Survival. The small companies to 24 employees follow the goal Stability in 57 percent cases. In the small companies with more than 25 employees the main goals were Quality, Development and Stability (55 percent). These companies (the same as micro companies) do not follow the goal Survival, in comparison with the small companies to 24 employees, that follow this goal, but only in 4 percent. The medium sized companies follow in a dominant way the goal Profit (55 percent), the second most often followed category is Development (46) 43 percent medium sized companies follow the goal Stability and 34 percent the goal Quality. Minimum medium sized companies follow the goal Survival and Covering the market.

Table 4: *Numerousness of the studying goals of searched MSP according to the number of employees (own survey - GAJU 068/2010/S)*

Number of employees	Number of the comp.	Goal					
		Quality	Covering of market	Survival	Development	Stability	Profit
0 – 9	20	64%	18%	0%	50%	41%	32%
10 – 24	69	43%	4%	6%	32%	57%	40%
25 – 49	35	55%	8%	0%	55%	55%	33%
50 – 249	60	34%	8%	8%	46%	43%	51%

Table 5 show numerousness concerning diversity according to the activity of the studying small and medium sized companies, 6 categories of goals were analyzed here. Category Quality is dominant in the business companies (72 percent). Also less than 50 percent companies follow this goal in engineering production, on the contrary, food companies follow this goal minimum (18 percent), this group follows mainly category Stability in 73 percent cases. Companies in construction and wood working ones follow the goal very strongly. Business companies follow this goal very rarely. Following the goal in the category of Covering the market was minimum in all studying activities of research of small and medium sized companies. Companies working in services including transport follow this goal in 15 percent and companies in engineering production follow this goal least of all in 4 percent. The goal Survival is minimum followed, food companies and business companies do not follow this goal at all. In total 60 percent small and medium sized companies in engineering production follow the goal Development, 48 percent in services including transport and 38 percent wood working companies. Construction companies follow this goal minimum (27 percent).The goal Profit is strongly dominant for no category of the companies. This goal is followed by 55 percent construction companies, 43 percent woodworking companies, 42 percent companies in services. Food companies follow this goal only in 18 percent.

Table 5: *Numerousness of the goals examined MPS according to the activities (own survey - GAJU 068/2010/S)*

Activity	Number of companies	Goals					
		Quality	Covering of market	Survival	Development	Stability	Profit
Construction	50	40%	7%	7%	27%	62%	55%
Engineering	57	49%	4%	7%	60%	38%	36%
Woodworking	22	29%	5%	5%	38%	71%	43%
Food	11	18%	9%	0%	36%	73%	18%
Trade	21	72%	12%	0%	36%	28%	36%
Service and Transport	23	36%	15%	3%	48%	42%	42%

As it was mentioned above, the goal of the company should set off the basic mission of the company with the respect to the weak and strong side. These matters were also analyzed in the examined small and medium sized companies and are presented in the table 6 and 7. It can be seen that the companies consider very strong sides resp. Competitive advantage Range (38 percent), and Quality of labour (36 percent). 22 percent companies consider very strong page Flexibility and 16 percent numerousness Know-how. The remained strong pages that were presented by the small and medium sized companies were not more than 10 percent. There were, for example, personal approach, good name of the company, quality of employees, reliability etc.

Table 6: *Numerousness of strong sides/competitive advantages/ examined MSP (own survey - GAJU 068/2010/S)*

Strong sides/competitive advantages	**%**
Good name of the company	9
Flexibility	22
Know-How	16
Completeness	5
Quality of labour	36
Quality of employees	8
Lower price	5
Personal approach	9
Range	38
Satisfaction of customers	3
Reliability	7
Hinterland of the company	4

Most often presented weak side resp. threat was insolvency of the customer-40 per cent examined small and medium sized companies. In total 25 percent companies presented decline of sale, less than policy of the state, growth of costs, and 18 percent companies presented competition. About 10 percent companies presented decline of demand, lack of qualified workers, economic crisis, but also low innovation or poor knowledge of languages of employees.

Table 7: *Numerousness of weak sides /threats/of examined MSP (own survey - GAJU 068/2010/S)*

Weak sides /threats/	**%**
Insolvency	40
Decline of sale	25
Policy of the state	21
Growth of costs	21
Competiton	18
Decline of demand	11
Economic crisis	7
Lack of qualified workers	7
Slow reactions	2
Strength of currency	2
Language	0,5
Stagnation	0,5
Low innovation	2

4. Conclusion

In the case, the company has determined goal, it is aimed mainly at stability, further at quality, development and profit. Small companies follow more quality and development, but medium sized companies follow mainly development and profit. Examined small and medium sized companies consider their strong pages mainly range and quality of labour and on the contrary as threat insolvency.

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Paper received: May 15th, 2014
Approved for publication: June 1st, 2014

Rad primljen: 15. maj 2014.
Odobren za štampu: 1. jun 2014.

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CILJ MALIH I SREDNJIH PREDUZEĆA

S a ž e t a k

Strateški menadžment predstavlja trenutni pravac u menadžmentu. Primenjuje se u svim vrstama preduzeća, uključujući mala i veća preduzeća. Koristeći principe procesa upravljanja u okviru malih i srednjih preduzeća, nastaju ograničenja koja su prouzrokovana uglavnom veličinom preduzeća i fokusiranjem na operativnom menadžmentu. Druge specifičnosti su gomilanje funkcija, neformalno rukovodstvo, prednost data usmenim komunikacijama radije nego pisanim, itd. Uvođenjem strateškog menadžmenta može se povećati konkurentnost, mogu se smanjiti troškovi, olakšati sprovođenje motivacije kod zaposlenih, vremenski skratiti trajanje isporuke, povećati zadovoljstvo potrošača itd. Cilj ovog rada je da saznamo koliko mala i srednje velika preduzeća koriste strateški menadžment.

Ključne reči: ciljevi, mala i srednje velika preduzeća, strateško upravljanje

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UDC 330.101.541 ; 330.45:519.23
Original scientific paper

COGNITIVE MODELING AND MULTI CRITERIA DECISION MAKING IN MACROECONOMIC ANALYSIS

Decision making in macroeconomics belongs to the class of ill-structured tasks with strong external factors interdependence, a limited number of management tools and experts groups' subjectivity. This paper suggests a technique of macroeconomic analysis which includes methods of cognitive modeling for formalizing a problem situation and scenario generation as a basis of the typical multicriteria decision making task. In turn, for solving this task is suggested a method based on measuring the distance to the «ideal» solution with determining importance of criteria by finding objective, common component of all values measured by experts groups. For extracting this «commonality» means of factor analysis are used. Such an approach allows separating of the objective part in experts' value from a subjective one, while the technique at whole provides formalization of macroeconomic problems and substantiation of decision-making in macroeconomics.

Key words: cognitive modeling, combined strategies, decision making, ill-structured problems, macroeconomic analysis, method of finding generality, multicriteriality

1. Introduction

Decision making is a critical problem for any branch of knowledge involving decision situations. However decision making theory (DM) as an applied mathematical tool for foundation of any possible choice is quite rare used yet. For most of typical economic tasks both factors influenced on their formulation and means of their solutions have high level of uncertainty. Even in cases where nominal scales are possible and estimation is conducted by expert groups these tasks are poorly satisfied with most DM methods requirements. And while in microeconomics there are particular types of task which can be adopted for DM means, macroeconomists mostly base their choice on theoretical analysis of connections and interactions.

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A typical formulation of initial conditions is "while A is increasing, B is reducing". These types of connection in a fact make the foundation of macroeconomic analysis. Some of them are quite clear, while other vary much with every scientist's opinion. In dependency on which economic school he or she belongs to, what makes sphere of interests and etc. Consequently, decision making process has an obligate subjective part. From the one hand it is possible to solve the problem by using expert groups consisted of scientists from different economic schools, holding different opinions on the situation discussed. In that case we will get estimations based on sufficient amount of subjective opinions. Expectedly they will be objective enough. From the other hand it causes a number of other problems such as extracting of aforementioned objective part from the whole set of obtained estimations and determining factors used as criteria. Macroeconomics assumes existence of different points of

view for the same problem, it is impossible to detect the best one, thereby an "ideal" solution as well as factors influence on its' achievement varies from each economist, each expert. Consequently, in the situation of determining criteria under the consequences of different vies existence there are two ways to adopt it: either to cut all criteria which are in doubt for at least one of the experts or to take into account any criteria suggested by any expert. The result of the first solution is the cropped model allows an effective application of mathematical tools. Such a model however is not satisfied with economic theory point of view. While the second way results in a large dimensions evaluation matrix of alternatives (strategies) that leads to the problem of DM methods application.

Furthermore there is an explicit problem of initial set of alternatives determination. In the ideal case it is necessary to detect all possible ways of the problem's solution. Such a situation limits experts' opportunities. Instruments of fiscal and monetary politics are quite fixed in macroeconomic theory, while their characteristics are again described by statements "while A is increasing, B is reducing". So there are conditions of accurate numerical characteristics absence. It is quite obvious that for economic theory is more typical manipulating by causality, not quantity factors. Certainly, there are assumptions as "while A is increasing by 3%, B is 1% falling". However, such statements represent conclusions based on empirical observations (statistical data). Thereby DM tasks in macroeconomics unlike the task of for example choice of a family car, which is well-structured and easy formalized, require special methods providing transition from causality and verbal estimates to accurate mathematical language.

One more complication of classic DM methods application to developing effective macroeconomic strategies is influence of external factors or factors of variable external environment. This fact in substance is the essence of macroeconomic theory. Moreover dynamic nature of the tasks also results in some additional problems. Importance of criteria changes over time in case of economic long and short run as well as in general sense – every month, every day, every

minute. Thus, an individual decision-maker (IDM) is in the situation of choice due to the lack of complete information about external environment conditions and quantitative dynamics of criteria what results in the absence of determinate connection between strategies and its consequences, which could be recorded as functional dependency.

Furthermore people who are IDMs in macroeconomic also form a standalone question. Two main features of specialists working in this sphere are quite obvious. First, their number is limited enough: legislative and administration affairs specialists, board of directors of national monetary authority and the president. Any others, analytics and consultants, can be considered only as experts, but they can't be a part of IDM group. It leads to the second feature – the high degree of IDM responsibility. Thus, every macroeconomic decision should be the reasoned one, separated from the subjective part. Besides it, for some cases their reasonableness must be explained for people who don't have special knowledge in the sphere, such an explanation should be clear and available for everybody. Exactly this necessity of formal foundation together with requirements of objectiveness form factors called for strict mathematical tools as supporting means of making critical macroeconomic decisions.

So, there is a number of main problems which limit opportunities of classical DM methods. They in turn results in requirements for a new suitable for such situations method:

1) Ill-structuring of macroeconomic theory. Using of natural language for its description.
2) A limited leverage leading to limited number of alternative scenario.
3) Subjective nature of theoretical part.
4) Let's consider each of them analyzing opportunities for their solution.

2. Ill-structuring tasks

Methods suitable for ill-structured problems which require modeling of external and internal environment are based on using expert information processed with the help of heuristics, common sense and intuition. This fact, however, does not detract from this approach objectivity, but only helps with accurate and literate formalization of the situation. Among these methods the most popular are cognitive maps, decision tree and the analytic hierarchy process. The main advantage of cognitive modelling for macroeconomic tasks is presentation of expert knowledge in the form of the scheme where are recorded casual effects of factors characterizing the situation. Furthermore this method is suitable for generating management solutions in the form of strategies (Avdeeva and Kovriga, 2010). In fact, the set of factors and casual network connecting them form a fuzzy cognitive map (FCM). FCM in this situation is representa-

tion of IDM's view on the system, its' features, principles and consistent patterns. Besides, FCMs meet the dynamic nature of the task, recording connections between future, present and past of the considerable process (Plotinskij, 1998). The core of FCM is signed directed graph, vertexes of which are criteria and alternatives, while arcs are causalities. In addition it is necessary to select manageable factors or concepts (which in fact are alternatives) and target factors (criteria). Beside it, graph could contain quite big amount of vertexes representing factors which are neither target, not manageable (or limited manageable). Their presence however is obligatory for accurate description of the system's rules. Such factors are called intermediate. External environment influence in such models is represented by external concepts. Their values are just observed and depend on external factors which are out of the model. DM tasks under such consequences require determination of alternatives' initial values which are necessary for achievement specified values of target factors. Examples of cognitive maps are available in (Evstegneev and Ledasheva, 2003; and Kulinich, 2001).

3. Alimited number of alternatives

Using of FCMs is however possible only for the specified set of initial alternatives. Under this method all the manageable concepts (graph's vertexes) pulses simultaneously, they represented as a vector contained initial values of factors important for the system dynamics. Thereby an alternative is not only any pure strategy but the combination of them. In such a statement pure strategy is just a part or a component of the mixed or combined one. Component is one of the part in which conditionally divided a pure (100%) alternative. Components could be some measurable parameters as well as separated structured parts of the alternative.

Thus, in macroeconomic application we speak about the combination of actions, tools which all together form the united strategy aimed at achievement the specified states of economy. Such an approach to a great extend is differ from classic methods of DM by reason of using combined strategies instead of the choice the only one what is common practice. For a linear task considering influence on manageable concepts, these concepts are directly connected with criteria through estimations. When internal and external impulses are taken into account those connections accrete by intermediate internal and external factors and can be even broken by them. It leads to a nonlinear task where the "ideal" strategy is almost always the combined one. Dealing with such tasks requires first of all the set of any possible combination from n alternatives generation. The resulting combinations should meet the following conditions: each of them should differ from any other by at least one part of the alternative; the set at the whole should contain all single, double and ternary and other m combinations of alternatives, where m is a maximum number of alternatives' combinations.

Using of combined strategies is very important for estimating possibility of the method application to macroeconomic tasks, when it is quite obvious that through influence on the only one factor it is impossible to get quality changes in the whole system. The situation is analogical e.g. for decision making in politics.

4. Subjective nature of theoretical part

As discussed above one of the major problems in economic modelling is the variability of views on the situation and presence of significant subjective part in each of them. From the one hand it leads to criteria overgrowth that transforms the task in multicriteria one. From the other hand it entails a problem of assigning weights for them by an experts group. Classical methods of DM require numerical weights assigned by experts. This is complication enough for specialist used to deal with verbal categories. It can be solved by e.g. transition from quantity characteristics to categories like "A criteria is more important than B criteria". However, in this case we get a problem of agreed opinions. In this work is supported to use a method of commonality which doesn't require experts for assigning weights. It is described in detail in (Perminov and Leonova, 2012, pp. 1267-1276).

The essence of the method is using means of factor analysis for finding new common factors, which replace the initial ones, with the further determining the path of each combination of alternatives taking into account an objective part embedded in the set of the estimations made by an experts group. The next step is to find the best (minimal or maximal in dependency of aims) estimation using resulting path. On the base of such estimations are constructed a matrix of alternatives' paths deviations from the ideal one. The best alternative is the one gotten the shortest distance from the "ideal". Under conditions of combined strategies instead of pure, essence of the method is the same, but the size of the matrix will increase by reason of the growing number of all potential solutions due to taking into account all possible combinations of alternatives. In addition, the fact of taking into consideration external and internal environments factors transfers the system into nonlinear one. It results in requirement of using dynamic (asymptotic) estimations instead of classic static ones. The fact is quite important not only by the reason of economic system dynamic nature, but also taking into account that interaction of inverses connections could quite down the system as well as shake it.

5. Practical implementation

For the demonstration of the method let's consider its' application to the generalized problem of capital outflow regulation in Russia. The subject nowadays is very popular and actual. It is complicated and questionable enough in its economic essence, that's why for this paper we limit the problem by elementary and obvious factors which characterize the indicator. It is quite enough for illustration how the method deals with typical problems of macroeconomic tasks.

Thus, we have a task of the capital outflow regulation (reduction). Let's list all the steps of the method:

1) Determination and analysis of factors and casual effects typical for the situation. FCM constructing.
2) FCM calculation with the aim at generation of combined strategies and the matrix construction.
3) Using the method of finding commonality for getting the best combined alternative.

Let's consider each step on the application to the specified task.

We take monetary policy tools (refinancing rate, reserve requirements), fiscal policy tools (aggregate indicator of tax policy rigidity) and indicator of privatization's actions as manageable concepts. So as a base concept for generation mixed strategies are considered instruments available for monetary authority and government. Open market operations are excluded by the reason of statistical data absence for the recent five years. For the same reasons there are no transfers and government expenditures in the list[1]. Inclusion of privatization's indicator concept in the consideration is due to its' importance exactly for russian economy, what is quite obvious by turning to the recent economic history of the country.

Such economic indicators as foreign direct inward and outward investment (as a main part of capital outflow), current account, GDP, CPI, economic stability and corruption level (as important ones for investment climate factors) are represented as target concepts – criteria in DM definitions. Banking sector liquidity indicator, money supply, external debt, total government debt, trade balance, dollar USA/ruble exchange rate, tax revenues, export, an aggregated indicator of metal prices, oil and gas prices, political stability and offshore policy form intermediate external and internal concepts[2]. Each of specified factors is represented

[1] The practical calculation in the paper intends to demonstrate the supporting method and doesn't pretend to be full and accuracy from economical point of view. From the other hand using of long enough time series guarantees identification of the rules in the indicator's dynamics. Thus, such an assumption for this paper could be quite adequate.

[2] Most of time series are constructed on the base of statistical data compiled and published by Bank of Russia, Federal state statistics service in the Russian Federation, IMF and OECD.

by weighted digraph's vertex. Casual effects form its' arcs, each of them gets its' own weight illustrated the strength of the effect. For constructing such an presentation adjacency matrices are convenient enough. An adjacency matrix is a table with rows and columns corresponding to the nodes of the digraph while elements on their intersections reflects the presence of the arc, its' direction and strength. The adjacency matrix of the considered task is illustrated on Fig. 1[3].

FCM has been constructed on the base of the adjacency matrix. There is a great number of the special software for it. For this research is used decision support system based on cognitive modeling „IGLA" with options of FCMs modeling, generation and selection of scenario for management ill-strutted systems constructed on the base FCMs (Gulakov, Lagerev and Podvesovski, 2007, pp. 103-104).

Figure 1: *The adjacency matrix.*

	Reserve requirements	Refinancing rate	Banking sector liquidity	Money supply	Current account	Trade balance	Budget balance	External debt	Total government debt	Exchange rate	Outward foreign investments	Inward foreign investments	Tax revenues	Tax policy	Privatization activity	Export	Aggregated indicator of metal prices	Oil price	Gas price	GDP	CPI	Political stability	Economy stability	Corruption level	Offshore policy
Reserve requirements	-	-	-0,4	-0,9	-	-	-	-	-	0,2	-0,4	-	-	-	-	-	-	-	-	-0,3	-0,9	-	-	-	-
Refinancing rate	-	-	-0,9	-0,9	-	-	-	-	0,2	0,2	-0,4	-	-	-	-	-	-	-	-	-0,3	-0,8	-	-	-	-
Banking sector liquidity	-	-	-	0,9	-	-	-	-	-	-0,3	-0,3	-	-	-	-	-	-	-	-	-0,2	0,8	-	-	-	-
Money supply	-	-	-	-	-	-	-	-	-	-0,2	-	-	-	-	-	-	-	-	-	-	0,8	-	-	-	-
Current account	-	-	-	-	-	-	0,4	-	-	-	-	0,2	-0,1	-	-	-	-	-	-	-	-	-	-	-	-
Trade balance	-	-	-	-	0,8	-	0,4	-	-	0,6	-	-	-0,1	-	-	-	-	-	-	-	-	-	-	-	-
Budget balance	-	-	-	-	-	-	-	-0,3	-	-	-	-	-	-0,3	-0,8	-	-	-	-	-	-	-0,4	-0,1	-	-
External debt	-	-	-	-	-	-	-0,7	0,4	-	-	-	-0,6	-	-	-	-	-	-	-	-	-	-	-	-	-
Total government debt	-	-	-	-	-	-	-0,8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Exchange rate	-	-	-	-	-0,6	-0,6	-	-0,4	-	-	0,2	-0,2	0,3	0,2	-	-0,9	-	-	-	-0,4	-0,4	-0,2	-	-	-
Outward foreign investments	-	-	-0,3	-0,2	-0,2	-0,4	-0,2	-	-	-0,5	-	0,2	-0,4	0,1	-	-	-	-	-	-0,2	-0,1	-0,3	-0,3	-	0,2
Inward foreign investments	-	-	0,3	0,2	0,2	0,4	0,4	-	-	0,7	0,2	-	0,4	-	-	0,5	-	-	-	0,2	0,1	0,2	0,3	-	-
Tax revenues	-	-	-	-	-	-	0,9	0,3	0,2	-	-0,1	-	-	-	-	-	-	-	-	0,1	-	-	-	-	-
Tax policy	-	-	-	-	0,2	0,3	-	-	-	-	0,6	-0,6	0,1	-	-	-	-	-	-	-	-	-0,1	-	-	-
Privatization activity	-	-	-	-	-	-	0,2	-	-	-	-	0,2	-	-	-	-	-	-	-	-	-	-0,2	-0,3	0,2	-
Export	-	-	-	-	0,9	0,9	0,4	-	-	0,1	-	-	-	-	-	-	-	-	-	0,2	-	-	-	-	-
Aggregated indicator of metal prices	-	-	-0,1	-0,2	-	0,1	-	-	-	-	-	-	-	-	-	-	-	-	-	0,1	-	-	-	-	-
Oil price	-	-	-	-	0,8	0,9	0,3	-0,2	-0,2	0,8	-	0,1	0,2	-	-	0,9	-	-	-	0,3	-	0,3	0,5	-	-
Gas price	-	-	-	-	0,6	0,7	0,2	-0,1	-0,1	0,2	-	0,1	0,1	-	-	0,7	-	-	-	0,1	-	0,2	0,2	-	-
GDP	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-0,2	-	-	-	-	-	-	0,2	0,2	-	-
CPI	0,1	0,1	0,1	0,2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-0,1	-0,2	-	-
Political stability	-	0,1	-	-	-	-	-	-	-	-	-	0,4	-	-	-	-	-	-	-	-	-	-	-	-0,2	-
Economy stability	0,1	0,2	-	-	-	-	-	-0,1	-0,1	-	-	0,4	-	-	-	-	-	-	-	-	-	-	-	-	-
Corruption level	-	-	-	-	-	-	-	-	-	-	0,2	-	-0,2	-	-	-	-	-	-	-	-	-0,5	-0,4	-	-
Offshore policy	-	-	-	-	-	-	-	-	-	-	-0,4	-0,2	0,2	-	-	-	-	-	-	-	-	0,1	-	-0,1	-

[3] For that class of the tasks an adjacency matrix, as well as internal and external factors of the problem are formed and signed by the experts who are specialist of this branch of knowledge.

For application this method in "IGLA" software it is required to specify initial values of concepts using a special fuzzy rank scale. It consists of seven levels: very low, low, below average, average, above average, high, very high. It is quite obvious that such estimations are made by experts on the base of their view on the situation in question. Thus, analyzed task is represented by four manageable concepts; each of them could get seven different values according to the ranks scale[4]. The software generates 4^7 mixed strategies, for each of them manageable factors get one of seven different values according to the ranks scale. The result of the process is presented as a matrix contained values of the concepts for each alternative. Further, we should exclude values of non-target concepts, which are not criteria in DM definitions. The latest version of the matrix is presented on Fig. 2.

[4] The scale differs a little from the one used for determining initial values of factors and consists of four ranks: very low, below average, above average, very high.

Figure 2: *A fragment of the matrix under conditions of mixed strategies*

Alternative number	Current account	Outward foreign investments	Inward foreign investments	GDP	CPI	Economy stability	Corruption level
170	0,80	0,81	0,62	0,63	0,26	0,47	0,42
171	0,80	0,81	0,63	0,63	0,26	0,45	0,45
172	0,81	0,84	0,58	0,63	0,25	0,51	0,34
173	0,81	0,84	0,58	0,63	0,25	0,48	0,38
174	0,81	0,84	0,59	0,63	0,25	0,46	0,42
175	0,81	0,84	0,60	0,63	0,25	0,44	0,45
176	0,76	0,71	0,67	0,62	0,15	0,52	0,34
177	0,76	0,72	0,68	0,62	0,16	0,50	0,38
178	0,76	0,72	0,68	0,62	0,16	0,48	0,42
179	0,76	0,72	0,68	0,62	0,16	0,48	0,42
180	0,78	0,75	0,64	0,62	0,15	0,52	0,34
181	0,78	0,75	0,65	0,62	0,15	0,50	0,38
182	0,78	0,75	0,65	0,62	0,15	0,48	0,42
183	0,78	0,76	0,66	0,62	0,16	0,46	0,45
184	0,79	0,79	0,61	0,61	0,15	0,52	0,34
185	0,79	0,79	0,61	0,61	0,15	0,49	0,38
186	0,79	0,79	0,62	0,62	0,15	0,47	0,42
187	0,79	0,79	0,63	0,62	0,15	0,45	0,46
188	0,80	0,82	0,58	0,61	0,14	0,51	0,34
189	0,80	0,82	0,58	0,61	0,15	0,49	0,38
190	0,80	0,83	0,59	0,61	0,15	0,47	0,42
191	0,81	0,83	0,60	0,61	0,15	0,45	0,46
192	0,77	0,74	0,67	0,64	0,37	0,52	0,34
193	0,77	0,75	0,68	0,64	0,37	0,49	0,38
194	0,77	0,75	0,69	0,64	0,37	0,47	0,41
195	0,78	0,75	0,69	0,64	0,38	0,45	0,45
196	0,79	0,78	0,64	0,64	0,36	0,51	0,34
197	0,79	0,78	0,65	0,64	0,37	0,49	0,38
198	0,79	0,78	0,66	0,64	0,37	0,47	0,41
199	0,79	0,79	0,66	0,64	0,37	0,45	0,45
200	0,80	0,82	0,61	0,64	0,36	0,51	0,34
201	0,80	0,82	0,62	0,64	0,36	0,48	0,38
202	0,80	0,82	0,62	0,64	0,37	0,46	0,41
203	0,80	0,82	0,63	0,64	0,37	0,44	0,45
204	0,81	0,85	0,58	0,64	0,36	0,50	0,34
205	0,82	0,85	0,59	0,64	0,36	0,48	0,38
206	0,82	0,86	0,59	0,64	0,36	0,46	0,42
207	0,82	0,86	0,60	0,64	0,37	0,44	0,45

To get an effective alternative we will use the finding commonality method. With the help of factor analysis we calculate principle components, which replace criteria. In application to our data we get three principle components, which has 100% percentage of variance. For extraction commonality from individuals scores it is necessary to multiply commonality regression coefficients at value of alternatives estimations. The next step is determining criteria goal: whether it requires to be minimized or maximized for achievement an effective results, after that we find the "ideal" path for them and with the help of Euclidean distance[5] calculate the distance to it. Further, selecting out the shortest distance value we get the most effective alternative. Such an alternative in application to used data implies very low reserve requirement and refinancing rate, high tax policy rigidity and deceleration activity of privatization process.

6. Conclusion

This result doesn't satisfy all requirements to be suitable for accurate economic interpretation by the reason of excluded macroeconomic tools. However, it is quite obvious that it doesn't conflict with basic economic rules. Thus, we can say that this technique is suitable for the class of ill-structured tasks with great influence and strong variability of external environment, experts groups' subjectivity, priority of combined strategies over pure ones and a great number of criteria which an optimal solution should meet. The fact, in turn, shows possibility of the method application in wide sphere of macroeconomic tasks.

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Paper received: May 15th, 2014
Approved for publication: June 1st, 2014

Rad primljen: 15. maj 2014.
Odobren za štampu: 1. jun 2014.

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KOGNITIVNO MODELIRANJE I MULTIKRITERIJALNE ODLUKE U ANALIZI MAKRO EKONOMIJE

S a ž e t a k

Proces donošenja odluka u makroekonomiji pripada klasi loše zamišljenih zadataka sa snažnim spoljnim faktorima međuzavisnosti, ograničenim brojem menadžmenta i subjektivnim ekspertnim grupama. Rad pokazuje tehniku makroekonomske analize koja uključuje metode kognitivnog modeliranja pri formalizovanju određenih problematičnih situacija i generacijskog scenarija kao osnovu tipičnog multikriterialnog donošenja odluka. S ciljem rešavanja ovog zadatka, predložen je metod osnovan na merenju dostižnosti „idealanog" rešenja utvrđivanjem vrednosti kriterijuma za pronalaženjem cilja i zajedničkih komponenata svih vrednosti, od strane odabranih stručnjaka. Za utvrđivanje „oskudne povezanosti forme" korištene su faktor analize. Takav pristup omogućuje odvajanje objektivne vrednosti od subjektivne, dok tehnika u celini pruža formalizaciju makroekonomskih problema u makroekonomiji.

Ključne reči: kognitivno modeliranje, ujedinjene strategije, donošenje odluka, strukturni problemi, makroekonomske analize, metode generalizacije, multikriterijumi

Nissim Ben David*

UDC 330.567.25 ; 330.59 ; 339.727.2
Original scientific paper

THE EFFECT OF NET FOREIGN ASSETS ON SAVING RATE

Observing empirical data we find that many countries try to delay the decision of increasing saving rate in order to avoid a decrease of the living standards. However the delay leads a deterioration of countries financial stability.

We present a simple theoretical model that connects between countries' saving rate and their net foreign assets. Using cross section data set of 135 countries in 2010 we estimated the econometric relation between saving rate in 2010 as dependent variable and two explanatory variables: the current account in 2010 and the aggregated current account during 1980-2010. Our findings show that industrial countries in a bad financial state tend to decrease their saving rate as external debt is larger causing to deterioration in external debt while countries with good financial state tend to increase their saving rate and the tendency increase as financial state becomes better. Only in countries with a very large external debt saving rate tends to grow. The results point that gross foreign debt will keep increasing and will worsen world financial state causing increased risk of getting into a world crisis.

Key words: foreign assets, saving rates, living standards

1. Introduction

Basic economic theory claims that capital will flow from countries with low marginal product of capital into countries with high marginal product (or from developed countries with high per-capita level of capital into developing countries with low per-capita level of capital).

However, according to Eswar, Raghuram, & Arvind, (2007) stylizes facts shows that in contrast to the neoclassical theory capital is not flowing from rich to poor countries, on the contrary, in the years previous to 2007 it seems that capital makes the opposite movement. In addition one would expect flow of capital, to fastest growing developing countries, in greater intensity then to countries with low growth rate. As it turns out according to Eswar et al., these are not the facts. Particularly, China, the fastest growing developing country, runs a surplus in its current account for the previous years to 2004. During the

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years 2000 to 2004 high growth countries exported significant amount of capital while the low growth countries received a significant amount. Moreover, looking at the correlation between long run growth in nonindustrial countries and the current account balance they reveal a positive correlation (not negative as one would expect). The explanation the researcher offer is that poor countries do not have the financial system that can easily absorb and ramp investment up substantially. Secondly, domestic saving is growing substantially in poor countries that are growing rapidly because it takes a while until households respond in rising consumption to the rising income**.** Gruber and Kamin (2007) tried to explain the large surpluses in Asia's current accounts and the large deficit in U.S. current accounts in the years previous to 2007. Estimating a regression model that includes classical explanatory variables identified in the literature (per capita income, output growth, fiscal balances, net foreign assets and economic openness) they got poor regression result. After adding the financial crisis's as an explanatory variables it largely improved the explanation to the emergence of developing Asia's current account surpluses. However they failed to explain why those Asians' surpluses ended up mainly in U.S deficit rather than being spread more evenly throughout the world. Ferrucci and Miralles (2007) examined the drivers of private savings behavior in a panel of developed and developing economies. They emphasized the dynamics allowing separation between short run adjustment and long run equilibrium markets. The researchers estimated the short run private saving rate compared with that of the long term in emerging economies and in developed economies. The results shows that private saving rate in the short run, in emerging economies, shifted up from the long run equilibrium, particularly in Asia. The researchers relate this short run movement to demographic factors and financial catching-up. Moreover, they suggested that looking ahead and adjusting to long run will cause a considerable fall in saving in those countries and that further progress in financial deepening will smooth saving rate among countries in the global economy. In developed countries, however, private saving in the short run is bellow long run equilibrium Chinn and Ito (2008) investigated the factors influencing current account and saving rate with an aim to explain the world saving glut. They found that government budget balances play an important role in the determination of current account balances. Sun (2011) examined empirically the differences of private savings in developing countries and its impact on current account balances. He found that economic growth is accompanied with structural changes in productivity and in job reallocations, which in turn affect private savings. According to Sun, different growth patterns of economic sectors create new income and employment distributions. High productivity creates large wage variation across industries and sectors therefore raises saving, while faster employment growth moves labor from low income sectors to high income sectors therefore reduce saving.

Apart from the papers mentioned above, the existing literature suggested many factors that might explain the level of savings, among them: financial development, demographic differences and the pension system (see Masson, Bayoumi and Samiei (1998), Loayza, Schmidt-Hebbel and Serven (2000).

We suppose that the changes in countries' saving rates are the most dominant factors in determining current accounts and that getting into financial instability might be a signal for policy makers to take steps in order to stabilize the economy. Our aim in this paper is to examine the effect of financial stability determined by aggregated level of current accounts in past 30 years and current account in present period on saving rate of 135 developed and developing countries.

The paper is organized in the following manner. A theoretical analysis of how current account effect steady state equilibrium within a Solow's' model is laid down in section II. An empirical estimation of the relation between saving rate and financial stability indicators is presented in section III. Section IV presents the summary.

2. Theoretical analysis

According to Solow (1956) the condition for long term steady state growth equilibrium is:

$$(1) \qquad sY = (n + d)k \,,$$

For: s – saving rate,

$Y = f(k)$ – per capita production,

d – depreciation rate and

k – Per capita amount of capital.

When the economy is open to trade and to capital movements, we get that in equilibrium:-

$$(2) \qquad I = S + IM - EX$$

For: I – Total net investment,

S – Total savings,

EX – Total export and

IM – Total import.

Let us define: $S_{net} = S + M - X$ and:

$$(3) \qquad s_{net} = \frac{S + IM - EX}{Y}$$

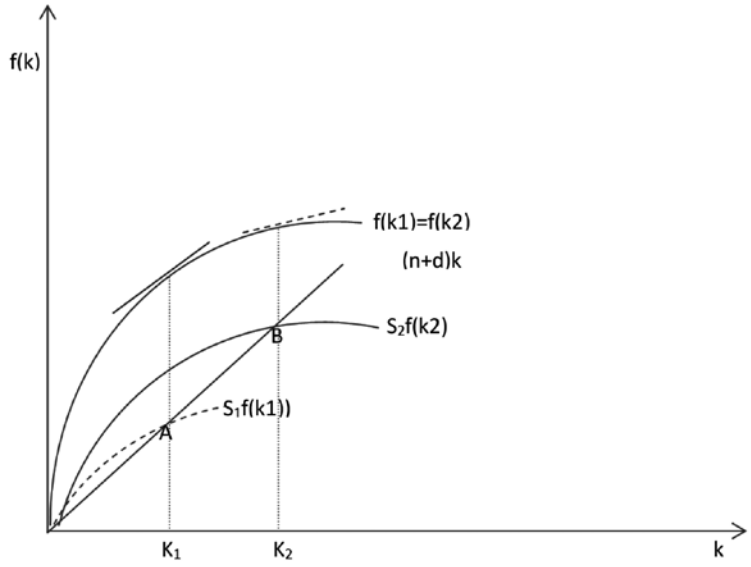
s_{net} - represent net saving rate in open economy.

In open economy equilibrium condition will be changed into:

$$(4) \qquad s_{net}Y = (n+d)k \ .$$

In order to present the effect of opening economies to trade and to capital movements, let us consider 2 countries with equal production function, equal population growth rate and equal depreciation rate. The only factor differentiating the countries is saving rate which is assumed to be higher in country 2.

Figure 1: *Presents long term equilibrium for each of the countries for economies that are closed to capital movements and to trade.*



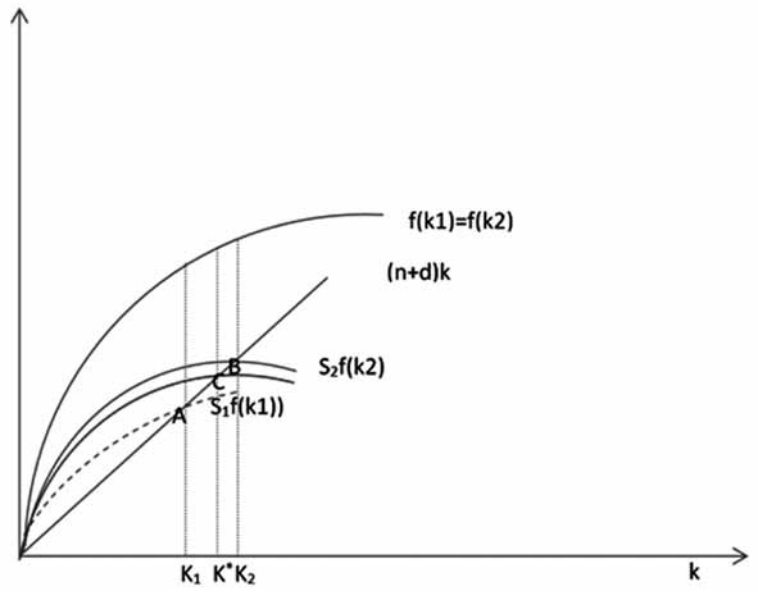
The dashed line represents the saving curve of the country with the lower saving rate.

Equilibrium of capital per-capita is lower in country 1 and marginal product of capital is higher - $f'(k_2) < f'(k_1)$ (see red line slope).

When economies are open to capital and goods movements, we expect that capital will flow from country 2 into country 1 and will seas flowing when marginal production in both countries will be equal.

The new equilibrium is depicted in figure 2 below:

Figure 2: *New equilibrium*



Both economies will converge to point C with equal long run capital - K^* and equal product per-capita.

We should notice that country 1 will have negative trade balance while country 2 will have positive trade balance. Given that each country persist with the same savings rate, population growth, depreciation rate and production function, the net deficit in foreign asset of country 1 and the net positive foreign asset of country 2 will persist to grow.

What will stop foreign debt from growing?

When the foreign debt grows, countries' financial state is perceived as more dangerous by other countries. At the first stage interest rate on foreign loans rise, a process that might increase local savings while decreasing local investment, causing improvement in trade balance and slowing the growth rate of foreign debt. In some countries the rise of interest rate might not stop local consumption and the deterioration of countries financial state. Under such conditions, foreign global organizations such as the „world bank"," international monetary fund" or other institutions or friendly governments will suggest financial aid that generally include a new proper economic program for decreasing local consumption while increasing local savings.

If the process described above characterize reality we expect that as long as foreign debt is low, a country has the freedom of decreasing savings without

decreasing private consumption and net investment. However, when foreign debt increases above a given threshold, the country will be perceived as financially instable and will be expected to increase savings while decreasing consumption and investment. Local saving rate is expected to be determined as a positive function of countries' external debt per capita.

The connection between external debt and the saving rate

If a country that has a large external debt accompanied by trade balance deficit starts increasing saving rate it can move to an acceptable level of external debt per capita. Given that the country is initially at point C (figure 2), capital and production per capita should not change following the increase in gross savings, however consumption should be reduced, trade balance will improve and investment stay constant.

Reduction in net investment might occur when a country is perceived as financially more dangerous. Higher risk pushes the local interest rate up leading to higher marginal product of capital and lower amount of capital per capita.

Figure 3 and figure 4 present a country with initial long term equilibrium of capital per capita in point C. Savings rate, S_1, determines a large negative trade balance and high consumption level ($CONS_1$).

The country can persist with the low saving rate as long as external debt is at an acceptable level.

However, when the external debt is crossing a given level, the country is forced to increase saving rate (see figure 4). The increase in savings is accompanied with consumption reduction to $Cons^1_1$ (see figure 3).

Figure 3: *The increase in savings accompanied with consumption reduction*

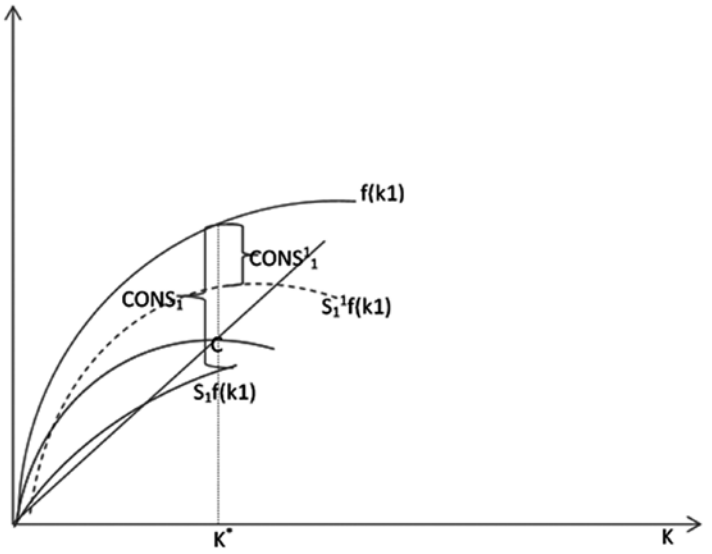
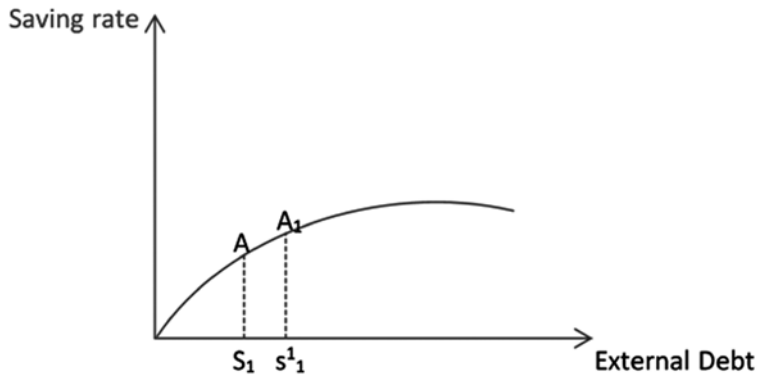


Figure 4: *The external debt crossing a given level - the country forced to increase saving rate*



Should a country create external debt?

A country with a low saving rate reaches a low equilibrium level of capital when trade balance is balanced. Starting at point A in figure 1 the country can move instantly to point C by creating a trade balance deficit. In point C capital level, production and private consumption grow, together with foreign debt. As long as foreign debt is low, gross saving rate can persist to be low.

However as foreign debt crosses a given threshold, the country is forced to increase its gross saving rate and reduce consumption.

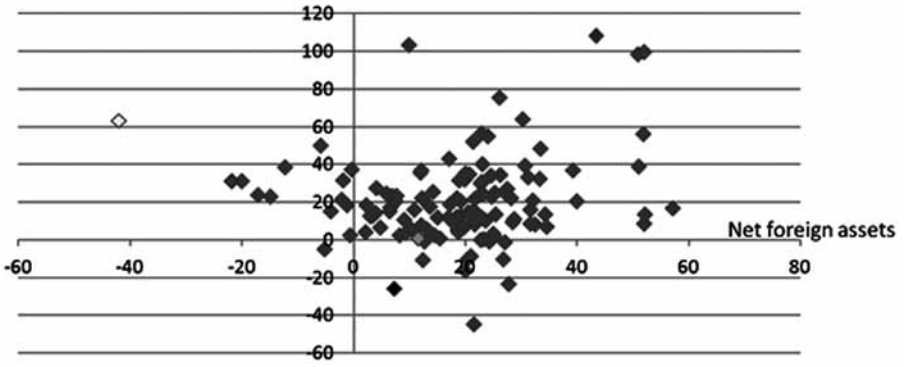
One can think of situations where creation of a large external debt is worthy, especially if the debtors agree to give up some of the debt as part of a rescue plan that include decrease in consumption and increased savings in the borrowing country.

How should we define countries' financial state?

At first, we thought that the most obvious variable to represent financial risk is net foreign assets. However after examining data published by the „world bank" we were surprised to reveal that the aggregate net foreign assets of all countries sum into a huge amount of over 13,000 billion American dollars in 2010. This contradicts the common knowledge that aggregate net foreign assets of all countries must be summed to zero, since a positive net foreign asset in one country should be accompanied by a negative net foreign asset of the same amount in other countries. It is well known that such odd results occur when definitions of variables according to statistical agencies that are responsible for collecting the data differ from classical economic definitions. Since worlds bank definition of foreign net assets do not include investment in real estate assets abroad or other capital movement, we get that aggregate net foreign assets differ largely from zero.

In figure 5 we depicted the connection between gross saving rate and the net foreign assets rate (from GDP) for 135 countries in 2010.

Figure 5: *Saving rate and the foreign assets rate*



Legend: Yellow: Lesoto; Red: Afganistan; Green: U.S.A; Purple: South Arabia; Black: Greece; Gray: Portugal

We can see that for a vast majority of the countries, net foreign assets rate is positive and only in 13 out of 135 countries it is negative (See in appendix 2 the gross saving rate and net foreign assets rate for all 135 countries). We do not intend to get here into an argument of why world bank data on net foreign assets do not represent countries financial risk, but preffer to search for a better risk indicator.

Alternative indicator for financial stability

If we would measure correctly all capital movements in each year, net foreign assets in period t should equal to the aggregated current accounts that starts in period 0 and ends at period t.

Equation (5) defines the connection between net foreign assets and current account.

$$(5) \qquad NFT_T = NFT_0 + \sum_{t=1}^{T} CA_t$$

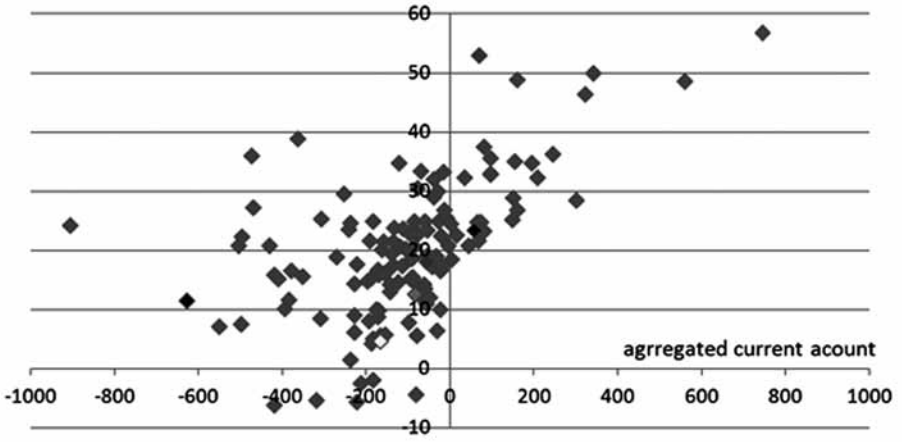
For:
NF_t- net foreign asset in period t
CA_{t-} Current account in period t.

We can see that aggregation of current account for a long enough period of time can be a good indicator for the total net foreign assets of a country.

Using IMF data of Current account ratio to GDP (CA ratio) we calculated for each country the aggregated CA ratios for the period 1980-2010.

Figure 6 presents the connection between aggregated Current account ratio DURING 1980-2010 and Gross Savings ratio to GDP in 2010 (see data in appendix 1).

Figure 6: *Saving rate in 2010 and agrregate current acount in 1980-2010.*



Legend: Greece: yellow; Germany: black; China: red; Brazil: purple; U.S.A: Green; Katar: gray; Nicaragua: brown

We can see that according to figure 6 worlds' countries aggregated current account is distributed as expected, with many countries having a negative aggregated CA ratio.

3. Empirical model

In this part we estimated an econometric equation with saving rate as dependent variable and two explanatory variables defining countries' financial risk: the current account and the aggregated current account.

$$(6) \quad savings = \alpha_1 D_1 + \alpha_2 D_2 + \alpha_3 D_3 + \beta_1 AGCUR * D_1 + \beta_2 AGCUR * D_2 + \beta_3 AGCUR * D_3 + \delta_1 AGCUR^2 * D_1 + \delta_2 AGCUR^2 * D_2 + \delta_3 AGCUR^2 * D_3 + \gamma_1 * CUR2010 * D_1 + \gamma_2 * CUR2010 * D_2 + \gamma_3 * CUR2010 * D_3 + u$$

For:
Savings - saving rate ratio in 2010.
AGCURR - aggregated CA ratio in years 1980-2010.
CURR2010 – Current account in 2010.

D1 – a dummy variable equal to 1 for 45 countries with the lowest aggregate current account in years 1980-2010.

D2 – a dummy variable equal to 1 for 45 countries with middle aggregate current account in years 1980-2010.

D3 – a dummy variable equal to 1 for 45 countries with the highest aggregate current account in years 1980-2010.

Table 1: *Results of the regression after correcting for Heteroskedasticity and removing non-significant variables*

Significant level	Coefficient	Variable
0.0000	15.66787	D1
0.0000	28.20771	D2
0.0000	22.69293	D3
0.0119	-0.024005	CURRENT*D1
0.0007	0.027577	CURRENT*D3
0.0066	-0.000255	CURRENT^2*D2
0.0000	0.727978	CURR2010*D1
0.0000	1.131170	CURR2010*D2
0.0000	1.013667	CURR2010*D3
0.0022	-0.020227	CURR2010^2*D3
R-squared=0.665208		

The estimated equations are as follows:

for countries with a very large negative aggregated current account:

$$(7) \qquad savings^f = 15.66787 - 0.024005 * \mathrm{AG}CURRENT + 0.727978 * CURR2010$$

For countries with large or medium negative aggregated current account (in absolute values):

$$(8) \qquad savings^f = 28.20771 - 0.000255 * \mathrm{AG}\,CURRENT + 1.131170 * CURR\ 2010$$

For countries with a small negative or with positive aggregated current account:

$$(9) \qquad savings^f = 22.69293 + 0.027577 * \mathrm{AG}CURRENT + 1.013667 * CURR2010 - 0.020227 * CURR2010^2$$

Notice that we can interpret the coefficients of dummy variables as basic saving rates.

We get that countries with very large negative aggregate current account (in the lower edge Equatorial Guinea with -907.35% aggregated CA and in the upper edge Portugal -170.49% aggregated CA) saving rate increases in a larger amount as aggregate current account is more negative (see equation 7 -negative coefficient multiplied by negative aggregated current account).

For countries with large and medium aggregated negative account (in the lower edge Costa Rika with -170.14% aggregated CA and in the upper edge El Salvador -55% aggregated CA) saving rate decreases in larger amount as aggregate CA is more negative (see equation 8 – negative coefficient multiplied by squared aggregated CA). Among this group we can find several industrial countries with negative aggregated CA, Greece with -166%, Poland with -155%, Australia -133%, Spain with -92%, U.S.A. with -82%, Ireland with -60% and other large economies such as, Turkey -59% and Brazil -56%.

In countries with relatively small negative aggregated current account (in the lower edge Mexico with -54% aggregated CA) saving rate decreases in larger amount as aggregate CA is more negative (see equation 9 – positive coefficient multiplied by negative aggregated CA). Among this group we can find several industrial countries with negative aggregated CA, United Kingdom -48%, Canada -32%, Italy -21% and other large economies such as India -38% and South Africa -24%.

Countries with positive aggregate current account (see equation 9[1]) tend to increase the saving rate in a larger amount as aggregated net foreign account is more positive. Among this group we can find Austria 1.8%, France 3.37%, Korea 33%, Germany 57%, Japan 80% and China 208%.

Current year current account have a negative effect on saving rate in all countries with negative aggregated current account, while in countries with positive current account the effect is positive but diminishes as current account is growing.

These results point that countries with negative medium or small aggregate current account will tend to „sink" deeper. In addition in these countries saving rate will decrease when current year current account is negative.

The results are troubling since this group includes some of the major worlds' economies, such as U.S.A, Australia, Spain, Turkey, Brazil, United Kingdom, Canada, Italy, India and South Africa.

Countries with positive aggregate current account (external assets) will tend to increase saving rate. In addition positive current year current account will increase saving rate even higher.

Our interpretation of the results is that countries' will tend to go to the edge, those with positive net foreign assets will keep increasing their assets while those

[1] Equation 9 was estimated on data of countries with small aggregated negative CA and on data of countries with positive aggregated CA.

with external debt will tend to increase debt as long as the debt is not very large. Only when external debt becomes very large, saving rate will start growing.

Since some of the largest economies belong to the group that keep increasing external debt due to continues reduction of the saving rate, we are concerned of the obvious conclusion that at some stage when debt will become too large, the world will go into a deep financial crisis.

We should mention that countries which have a middle level of aggregate current account have a higher basic saving rate 28.20771%, in comparison to the counties at the edges. Since most of the western countries can be classified as „middle countries", world institutions should concentrate at these counties which produce a major part of world production.

4. Summary

We presented a theoretical analysis of an economy that is open to international trade and to capital movements by using Solow's model (1956) as a frame. According to our analysis, a country can accelerate the convergence to long run steady state of per-capita production and capital by creating a negative current account and creating external debt. As long as the country is financially stable, it can keep a low saving rate and high consumption per-capita. However when external debt increases beyond acceptable level the country will not be able to borrow from abroad and will be forced to increase saving rate and improve current account, a process that will cause a reduction of external debt.

In the empirical part of the paper we suggest to measure financial stability of a country by the aggregated current account in the last 31 years (1980-2010). We think that this measure is better than the „net foreign assets" which does not include all financial factors that define countries' financial stability.

Using data of 135 countries we estimated a cross section econometric equation with saving rate as dependent variable and the current account and aggregated current account as explanatory variables.

Our findings show that countries with very high external debt tend to increase their saving rate, while countries with medium or low external debt tend to reduce their saving rate. The group of countries with medium and low external debt includes many of the most developed countries, among them U.S.A, United Kingdom and span.

Countries with positive aggregated current account tend to increase their saving rate as their aggregate CA is larger.

Our findings are troubling since they show that countries which are at the edge of becoming unstable financially tend to deteriorate into a worse financial state and only when financial state becomes extremely unstable they start incre-

asing saving rate. It seems that if this behavior will proceed, the world might fall into a deep crisis.

The finding point to the fact that deterioration of worlds' financial stability is due to the negative financial state of some of the most dominant and productive countries.

We believe that in order to stop deterioration, worlds' organization together with worlds' leading countries must concentrate on economic policy that will create a change in the most developed countries which carry medium levels of external debt, but can risk all worlds' financial system.

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Appendix 1

Gross savings rate, Aggregated current accounts during 1980-2010 and current account in 2010 as percentage of GDP in 2010

	saving rate 2010	agg current acount	curr2010
Equatorial Guinea	24.322	-907.35	-24.07
Nicaragua	11.428	-627.597	-14.372
Guyana	7.256	-551.104	-9.513
Sudan	20.856	-505.463	0.717
Dominica	7.584	-497.839	-21.138
Lebanon	22.34	-496.546	-10.822
Bhutan	36.122	-473.022	-11.64
St. Kitts and Nevis	27.358	-469.999	-20.642
St. Lucia	20.901	-431.27	-15.203
Antigua and Barbuda	15.945	-419.492	-12.945
St. Vincent and the Grenadines	-6.104	-419.284	-31.571
Lesotho	15.334	-408.95	-15.084
Mozambique	10.258	-393.509	-11.742
Togo	11.688	-384.834	-7.125
Seychelles	16.604	-378.343	-20.08
Chad	38.896	-363.427	-3.51
Mauritania	15.688	-351.676	-8.802
Grenada	-5.209	-318.245	-25.529
Comoros	8.542	-308.475	-6.863
Cape Verde	25.337	-308.34	-12.467
Madagascar	18.928	-269.929	-9.679
Zambia	29.635	-253.099	7.068
Senegal	23.613	-241.555	-6.095
Malawi	24.78	-238.617	-1.246
Guinea-Bissau	1.564	-238.578	-8.253
Benin	9.122	-228.784	-7.192
Sierra Leone	6.288	-227.605	-28.772
Jamaica	14.401	-227.484	-8.097
Niger	17.729	-222.562	-21.103
Solomon Islands	-5.557	-222.301	-30.259

Maldives	-2.356	-212.812	-17.356
Belize	14.923	-197.954	-3.076
Burundi	8.114	-192.969	-9.889
Tanzania	21.638	-191.506	-9.278
Iceland	4.256	-188.22	-8.389
Burkina Faso	15.391	-188.179	-3.567
Guinea	-1.785	-184.451	-12.351
Central African Republic	5.126	-183.915	-9.939
Sri Lanka	24.956	-183.61	-2.196
The Bahamas	10.028	-176.78	-11.689
Cyprus	8.894	-172.788	-9.876
Honduras	16.734	-171.665	-6.222
Rwanda	15.889	-171.223	-5.978
Portugal	9.945	-170.496	-9.981
Costa Rica	16.575	-170.141	-3.518
Greece	4.574	-166.387	-9.982
The Gambia	5.688	-166.319	-15.736
Democratic Republic of Congo	20.163	-163.372	-6.906
Bulgaria	21.568	-157.963	-1.322
New Zealand	16.162	-156.481	-3.432
Poland	16.293	-155.772	-4.66
Mali	5.796	-154.718	-12.628
Guatemala	13.123	-143.746	-1.52
Albania	14.272	-143.393	-11.614
Hungary	19.498	-138.638	1.097
Jordan	17.567	-135.765	-5.574
Tunisia	21.587	-134.708	-4.796
Australia	23.943	-133.037	-2.844
Uganda	14.679	-123.029	-9.569
Vietnam	34.904	-122.189	-4.139
Suriname	20.761	-120.618	2.035
Ghana	17.413	-113.456	-7.302
Peru	23.687	-112.27	-1.707
Romania	20.387	-106.355	-4.452
Dominican Republic	7.91	-98.466	-8.59
Haiti	22.877	-96.179	-2.556

Panama	15.213	-94.885	-10.763
Spain	18.698	-92.025	-4.604
Mauritius	15.59	-88.585	-8.158
Angola	23.047	-87.913	10.378
Kenya	14.912	-87.707	-6.525
Ethiopia	20.716	-86.093	-4.35
Chile	25.039	-84.378	1.512
United States	12.532	-82.639	-3.242
Swaziland	-4.251	-81.869	-16.483
Barbados	5.637	-78.506	-8.204
Morocco	30.557	-77.107	-4.234
Ecuador	22.87	-75.423	-3.307
Pakistan	13.134	-74.834	-2.231
Nepal	33.413	-69.031	-2.406
Cameroon	13.288	-64.014	-2.835
Paraguay	14.367	-61.397	-3.378
Bolivia	24.987	-60.706	4.89
Ireland	11.528	-60.036	0.488
Turkey	13.581	-59.51	-6.35
Brazil	18.03	-56.479	-2.208
Colombia	19.109	-55.731	-3.083
El Salvador	10.991	-55.354	-2.301
Mexico	23.541	-54.397	-0.299
United Kingdom	12.058	-48.319	-3.318
Uruguay	17.37	-43.536	-1.184
Israel	18.879	-39.812	2.914
Bangladesh	29.157	-38.894	1.664
India	32.144	-38.517	-3.268
Canada	19.072	-32.5	-3.131
Papua New Guinea	6.504	-31.687	-8.442
Thailand	30.067	-28.482	4.132
Philippines	25.012	-27.875	4.471
Cote d'Ivoire	10.067	-24.188	1.101
South Africa	16.61	-24.182	-2.816
Italy	16.725	-21.291	-3.522
Argentina	22.53	-20.781	0.594

Egypt	17.525	-19.635	-1.976
Indonesia	33.373	-14.781	0.797
Nigeria	26.846	-14.689	1.268
Republic of Congo	25.531	-7.312	5.065
Syrian Arab Republic	20.89	-3.422	-3.308
Austria	24.596	1.895	2.954
France	18.556	3.376	-1.743
Denmark	22.683	14.269	5.506
Korea	32.424	33.585	2.896
Finland	20.885	43.757	1.432
Germany	23.427	57.463	6.083
Botswana	24.841	65.341	-5.168
Belgium	21.653	66.554	1.46
Sweden	24.893	73.345	6.277
Japan	23.314	80.073	3.569
Saudi Arabia	37.607	80.372	14.808
Bahrain	33.066	95.892	3.434
Malaysia	32.915	96.168	11.499
Oman	35.715	96.476	8.812
Netherlands	25.246	148.572	6.569
Hong Kong SAR	28.949	149.62	5.525
Trinidad and Tobago	35.112	153.371	19.857
Algeria	48.958	160.714	7.545
Venezuela	26.85	160.804	4.878
Norway	34.867	195.514	12.427
Taiwan Province of China	32.401	208.867	9.269
Gabon	36.37	244.188	9.061
United Arab Emirates	28.487	301.218	3.069
Singapore	46.54	322.865	24.412
Libya	50.103	342.484	20.887
Kuwait	48.703	559.427	29.643
Qatar	56.748	744.938	26.331

Appendix 2

Gross savings rate and foreign assets as percentage of GDP in 2010

Country Name	saving	Net foreign assets
New Zealand	21.45339	-44.6888
Greece	7.315297	-26.0401
Australia	27.69843	-23.4663
Latvia	19.83488	-16.4806
Portugal	12.43516	-10.6807
St. Lucia	20.36088	-10.3872
Estonia	26.65565	-10.0669
Spain	20.82645	-8.4051
Montenegro	-5.26694	-4.70158
Belarus	26.92417	-1.28174
Bahamas, The	12.50006	-0.94068
Sudan	24.18633	-0.86675
Myanmar	22.68732	0.01658
Slovenia	23.18996	0.26605
United States	11.50909	0.704036
Lithuania	15.38073	0.900842
Romania	25.08338	1.9074
Turkey	14.40806	2.533677
Nicaragua	-0.7875	2.595323
Malawi	8.167067	2.679123
Hungary	24.90444	3.375747
Armenia	9.17124	3.612507
Sri Lanka	18.6525	4.216631
Georgia	2.034217	4.323639
Italy	18.48654	5.209486
Pakistan	10.15377	5.626143
United Kingdom	12.91013	5.917982
Dominican Republic	4.729032	6.658624
Poland	19.74442	7.142056
United Arab Emirates	34.44901	7.179034
Chad	12	8.055656

Colombia	21.52231	8.09664
Venezuela, RB	32.33607	8.247541
Zambia	31.48323	8.612394
Azerbaijan	51.89935	8.692297
Bangladesh	17.80368	9.249327
Chile	28.31894	9.468836
Mexico	23.51948	10.19109
Lao PDR	21.49966	10.39628
Kenya	8.953688	10.56037
Brazil	18.25583	10.87784
Vietnam	28.60619	11.33007
Ghana	14.92989	11.7578
Croatia	22.87472	11.77969
Costa Rica	16.8805	12.07682
Cote d'Ivoire	18.44441	12.46657
Jamaica	2.895242	12.60806
South Africa	19.05885	12.67819
Sierra Leone	3.324156	12.71346
Argentina	25.30852	13.50285
Indonesia	34.12176	13.5163
Gabon	52.10808	13.7378
Guatemala	3.777377	14.23893
Tunisia	21.0449	14.56313
Ecuador	20.50739	14.64688
Serbia	6.328413	15.17186
El Salvador	-4.17682	15.30316
Japan	21.37025	15.66604
India	31.52593	15.99798
Senegal	10.77067	16.156
Equatorial Guinea	57.05925	16.67397
Gambia, The	6.5	17.46529
Uganda	13.47804	17.57861
Bosnia and Herzegovina	-1.32507	18.44654
Honduras	2.21775	18.45324
Tanzania	17.16311	18.84833
Nepal	7.390787	20.60817

Kazakhstan	39.84637	20.62265
Cape Verde	19.11957	20.75705
Korea, Rep.	31.94211	20.81003
Swaziland	-2.29515	21.21813
Paraguay	21.63303	21.90969
Syrian Arab Republic	18.3888	22.01972
Angola	28.03244	22.06535
Benin	12.17729	22.3786
Namibia	24.57689	23.12908
Moldova	-14.9786	23.13958
Macedonia, FYR	6.777835	23.38326
Yemen, Rep.	7.540357	23.54381
Tonga	-17.1733	23.89822
Denmark	22.42872	24.05111
Peru	27.28734	24.1997
Bulgaria	23.0204	24.21588
Mozambique	5.724723	24.53575
Morocco	25.20587	25.20213
Egypt, Arab Rep.	14.10575	25.29498
Czech Republic	27.36069	27.09992
Albania	3.947689	27.70447
Panama	22.73904	29.84582
Iceland	22.81976	30.65778
Afghanistan	-21.7924	30.97363
Haiti	-20.2011	31.11457
Guyana	-2.03899	31.61172
Philippines	18.72782	31.82192
Uruguay	19.81789	32.23292
Mongolia	33.14273	32.54097
Russian Federation	31.18261	33.47037
Sweden	24.49533	34.08973
Netherlands	26.14214	34.7108
Papua New Guinea	20.58571	34.79103
Finland	19.94647	35.33438
Cambodia	11.9295	35.8889
Cyprus	11.99943	36.80134

Malaysia	39.22648	37.10227
Dominica	-0.40561	37.40393
Kosovo	-12.3424	38.5274
Congo, Rep.	50.94492	39.09943
Switzerland	30.58454	39.53693
Belgium	22.89499	40.34596
France	17.00667	43.17924
Thailand	33.29735	48.29601
Jordan	-6.05141	50.12153
Botswana	21.23956	52.05881
Bolivia	23.8703	55.0676
China	51.69536	56.16424
Germany	22.8121	56.68331
Lesotho	-42.0569	63.32774
Ireland	30.12621	64.16727
Austria	25.95028	75.69826
Algeria	50.73373	98.52624
Singapore	51.89371	99.96196
Lebanon	9.843946	103.6549
Saudi Arabia	43.3622	108.0656

Paper received: May 15th, 2014
Approved for publication: June 1st, 2014

Rad primljen: 15. maj 2014.
Odobren za štampu: 1. jun 2014.

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EFEKAT STRANIH NETO SREDSTAVA U ODNOSU NA STOPU ŠTEDNJE

S a ž e t a k

Posmatranjem empirijskih podatka dolazimo do zaključka da mnoge zemlje pokušavaju da odlože donošenje odluke o povećanju stope štednje kako bi izbegle smanjenje životnog standarda. Međutim odlaganje dovodi do pogoršanja finansijske stabilnosti zemlje.

Predstavljamo jednostavan teoretski model koji je veza između stopa štednje i strane neto imovine u zemlji. Koristeći presek podataka iz 135 zemalja u 2010. godini, uradili smo procenu matematičke statistike između, stopa štednje u 2010. godini, kao promenljivu variablu i dva pokazatelja variable: tekući račun u 2010. godine i grupisani tekući račun tokom 1980-2010. Nalazi pokazuju da industrijske zemlje lošeg finansijskog stanja imaju tendenciju da smanje iznos svojih stopa štednje kao spoljni dug, uzrokujući pogoršanje spoljnog duga, dok zemlje dobrog finansijskog stanja imaju tendenciju da povećavaju svoje stope štednje tako da finansijsko stanja postaje bolje. Samo u zemljama sa velikim spoljnim dugom, štedna stopa ima tendenciju rasta. Rezultati ukazuju da će bruto spoljni dugovi biti sve veći, što pogoršava svetsko finansijsko stanje i povećava rizik od globalne finansijske krize.

Ključne reči: strana sredstva, stope štednje, životni standard

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UDC 364.652.2:355.01(594)
Original scientific paper

THE FORMULATION OF LOCAL VALUES-BASED RECOVERY PROGRAM (LEARNING FROM THE EXPERIENCE OF THE PROVINCIAL GOVERNMENT OF EAST NUSA TENGGARA-INDONESIA)

The research aims to determine how the social design of policy formulation in recovery after disasters and social conflicts. The method used in the study is a qualitative research design, data collection techniques through documentation and interviews with key informants. The recovery of the public life after reconstruction due to natural disasters and social conflicts demanding greater government attention to solve bersoalan arising through the formulation of programs oriented to local values. The importance of such a policy given that the public is the target to be met interests, and basically in their social life with values that serve as a guide in achieving a common goal. The Formulations recovery program based value is essentially a process of public policy formulation design also is social design process that relies on the dimension; (1) a value appreciation of relevant actors; (2) an orientation toward conflict resolution, problem solving, and change. The first dimention concerns an administrator's to listen to other voices, share in others experiences, and gain new knowledge. The second describes the administrator's orientation toward conflict resolution, problem solving, and change; the administrator's actions can range from proactive to reactive. Research indicates that, the experience of local government in the province of East Nusa Tenggara post-disaster and conflict should be a lesson for having successfully implemented local values-based formulation design in formulating regional development programs.

Key word: local values, policy formulation, social design

1. Introduction

The Province of Nusa Tenggara Timur-Indonesia, province in Indonesia is vulnerable to natural disasters and social conflicts. The catastrophic natural disaster ever to hit this province is the tsunami disaster in 1992 that killed 1952 people and injured 2126, whereas social conflict in general is the issue of

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land, namely disputes regarding boundaries of neighboring communities, and communal land ownership issues.

The implications generated by disasters and social conflicts are people suffering and trauma. The question then becomes the main concern of local governments to find a way out to feel peaceful and well-being to be recovered.

Efforts taken by local governments to recover after disaster strikes the community and social conflicts are addressed through a range public policies oriented development programs of local values. Local values are the values that flourish in a society that has been used as interact to achieve the purpose of the society.

Importance Of these local values in the formulation of policies to improve social conditions after the disaster and social conflicts become urgent because the top-down policies that are sometimes ignored the interests and needs of the affected communities and social conflict. Mapping to the needs and interests of local communities are less accommodated because the policies are made not consider the perspective of the target group. According to Edward III (1980:13), that if public policy is viewed from the perspective of policy customers, then value judgments are inevitable. This view confirmed that policies that work should pay attention to the condition of the people, because they will be affected by a policy. Just as also noted by Saifullah (2008:39), which states:

"The problem that arises due to a mismatch between the policy taken by the state in the field, sometimes the problem is regarding the aspects that cannot be measured quantitatively. For example, in relation to the system of values, cultural differences, understanding or perception, sense of justice, and freedom, and so forth"

The views of both writers are reinforced by the opinions Nurjaya (1985), which states that the policy that ignores local values ultimately led to the marginalization of local communities. Model Policies into top-down and not rooted in local cultural values.

In the last three decades product public policy are taken by the government in dealing with natural disasters and social conflicts tend to showed characteristics of patterned centralized, exploitative, sectoral, closing the space for transparency and public participation, ignoring the rights of local communities. The ways that resulted in: (1) neglect of the principles of justice; democracy, public participation; (2) create marginalization and destruction of the social order, local culture as a centralized government is required to be standardized; (3) occurred the criminalization process, victimization, and dehumanisasi of local community activity in the utilization of development, stigma tends degrade existence of local communities, (Nurjaya, 1985).

Therefore the need for reform in post-disaster management policy and social conflict by considering local values. The reason for the local community as a layer of grass roots support system with the knowledge that they have quite

thick and flexible in the face of various challenges, they remain survival through a process of continuous adaptation over the centuries with the environment in which they live. This article aims to determine the extent of social design formulation of policies adopted in recovery after disasters and social conflict case study of East Nusa Tenggara province of Indonesia.

2. Theoretical framework

2.1. The value and Decision Making

Any decision regarding public interest should consider the values prevailing in society. The attention to the dimensions of this value also because of the condition of the administration- politic dichotomy (Waldo, 1949:169), which explains that, values and political power has been in operation starting from the stage of agenda setting up the policy process to street-level policy implemementasi.

The assumptions built into the decision-making is also based on the notion that politics is generally defined as allocating values authoritatively or determination process, who gets what, where, and how? Of course this is in line with the diffusion theory (Frederickson, 1997, p. 41), which states the importance of the fit between the goals and the change of the dominant values in society. Values such as empathy., honesty, ability to innovate, and the value of concern for the public interest so to help policy-makers perform the duties entrusted to him.

The values are used as the basis for policy-making is also influenced by other factors in the decision-making process, as proposed by Winarno (2002, p. 93), which states that:

"The problem then is the criterion (of values or measures) such as whether that influence political decision-makers? To answer these questions we will be faced with many factors that influence the decision makers, such as political pressures and social, economic conditions, procedural requirements, prior commitments, etc".

According to Anderson (2003, pp. 126 - 127), that there is various values that surround and guide the policy makers in the decision-making process, namely organizational values, professional values, personal values, the values of the policy, and ideological values . Overall these values are widely considered by the decision maker. There is a tendency of public decision-makers to ignore the values held in the decision making process, when actually they are very helpful in determining what is good, bad, desirable or undesirable. The relationship between decision making and attention to the values of the public or the public interest represented by Michael (2003, p. 21), in his book entitled "The Foundation of Public Policy", that there are 5 main elements of any decision that is supposed to represent the public interest / public values namely: (1) recognition

of the rights of the individual; (2) attention to the public; (3) accountability of decision makers to the public; (4) representation public; (5) a formal process to separate and restrict the role of the decision maker.

Rational decision makers to always be rational, namely the manner in which effective policies that can be implemented. Rationality based on means-ends logic, which assumes that the best option was approved by the policy objectives. In the decision-making process, alternatives have been considered a great way for the achievement of goals. Therefore in decision theory, rationality is to minimize risk and ensure institutional continuity as a goal or value (Simon, 1947, p. 164). Rationality in decision-making processes be concerned to the selection of alternatives, actually intended not merely to maximize their values, but simply reached a level of satisfactory or good enough (Wahab, 1990, p. 65). Satisfaction is described and rational attitude allows administrators which face certain decisions, simplifies the problem by not examining all possible alternatives. In this case the administrator seems to follow common sense, making important choices that may be overlooked. Hence the concept of rational according to Simon (1947, p. 165) called bounded rationality.

The policy analyst careful that bias make recommendations on the goals and values, because these recommendations help the analyst to provide input to a conclusion about the main alternatives in decision-making can actually be applied to problem Solving the problem faced by the public. Associated with this, Dror in Wahab (1990, p. 66), presented a number of suggestions that rational decisions can be made, namely: (a) knowing the values of the whole society; (b) knowing precisely the policy alternatives available; (c) knowing all the possible consequences of each alternative selected policy; (d) calculate the ratio between the value achieved by the community with the sacrifice that has been given by them for each policy alternative selected; (e) choosing the most efficient alternative.

To carry out suggestions as proposed above, according to Wahab (1990, p. 66), public policy makers should take the following steps: (a) formulate and create hierarchy that it controls values; (b) formulate specific goals that match those values; (c) identify all relevant options or the means to achieve these goals; (d) calculate all the result of earlier choices and compare them with each other; (e) set options or combine the best choices are seen to maximize the achievement of the values that have been defined previously.

2.2. The Role of Values in Public Policy

Some studies show that the success of a policy is determined by the extent to which the policy attention to the values embraced, either by formulators, implementing policies and values held by the target policy, where the policy is applied. The results of study done by Nursalam (2009) showed that the implementation

of the policy because the results are not optimal since the policy formulation to implementation factors ignored public values.

The value in the organization is essentially something that is considered important to be used as a guide in achieving a common goal. According to Schein (1985, p. 7) value is expressed as:

"The basic assumption, which is discovered or developed by a group of people as they learn to cope with problems of external adaptation and internal integration, that has worked well so it is considered valid to be taught to members of the code of conduct".

From that perspective, the value of the system can be expressed as a composition of the principles and rules to help someone choose alternatives, resolve conflicts, and make decisions, materialized into a cultural value. As such a value includes an interconnected pattern or structured values that appear on each level, both at the individual, group, organization or society, the values are placed in a hierarchical arrangement is significant. A normal value is relatively stable or slow change, and have the ability to influence behavior and decision making specific choices or decisions. The value judgment occurs when a value applied to the policy-making situation, or on some aspect of the policy process.

Tachjan (2006, p. 119), further argued that:

„The norms of behavior and attitude patterns are a set of values of shared meaning of the members of the organization in the belief, assumptions, perceptions, preferences, outlook and attitude in overcoming the problem. Shared meaning, shared understanding, or collective mind, is a sense of togetherness in the organization's members have and use those values as a characteristic, prevailing the long time, different from other organization, and can be taught from one generation to the next ".

These values are creating artifacts in the form of technology, art, patterns of behavior. These values arise due to the presence of the basic assumptions relating to the mutual relationship with the environment, the nature of the reality of time and place; nature of human nature; nature of human activity, and the nature of human relationships. The shared values will become members of the organization in carrying handle and is the foundation obligation to behave, as well as a guide for dealing with problems of external adaptation and integration efforts into the organization so they know how they should act. Thereby the values of the organization can be used to achieve a competitive advantage and organizational effectiveness through the formation of attitudes and behavior patterns of members of the organization work.

Based on the views of some of the functions of the values or culture as presented above, the in the development of public policy formulation theory of Jones (1994, p. 164) take relevant dimension of value as an important determinant.

As also stated by Dunn (1981, p. 87), that value is "*The Systematic, reasoned, and critical examination of values is an essential element of policy analysis*". The condition empirical policy formulation showed that the failure of government programs related efforts with the values embraced by the formulators and implementers apparatus as well as the target of the policy. Several main values such as accountability, transparency, efficiency, effectiveness, responsibility, and competition, as well as the values of social justice is less in the formulation and implementation of government policy.

Such as the value of social justice according to Frederickson (1984, p. 43), emphasizing on: (1) equality in government service; (2) accountability for decision-making and implementation of programs of public managers; (3) changes in public management; (4) responsiveness to citizens' needs rather than the needs of public organizations; (5) an approach to the study of the administration that is interdisciplinary, applied and solve problems as well as theoretically healthful.

The issue of the importance of the dimension values or environmental factors in the formulation of public policy has been included by some authors as a-dimensional, as proposed by Simeon (1976, p. 550), which states:

"Machine politics and policy-makers are and work within a framework that severely limit their alternatives and innovations. The framework is shaped by socio-economic, power systems, the ideas, the values dominant in society, as well as the institutional structure of society. The policy process cannot be separated from the ideas, namely culture and ideology. A policy is a function of the ideas, values, theories, and beliefs dominant in society ".

Meanwhile Smith (1973, p. 200) in his book entitled "The policy implementation process", suggests environmental factors as one of the dimensions to see the implementation of public policy. Smith (1973, p. 200), argues four variables in policy implementation, namely: the idealized policy, the implementing organization, the target group, and environmental factors. Environmental factors are factors that may affect or be affected by the implementation of the policy, may be a condition of cultural, social, political, and economic. The understanding of influence of environmental factors is very important because public policy may not be separated from the influence of the environment in which policy is made and implemented, including the environmental factor is the political culture, public opinion, social systems, and economic systems. According to Nakamura and Smallwood (1980, p. 22), environmental of policy implementation are occupied by different people, depending on the policy that is being implemented. They are policy makers, policy implementers official, middleman, voter groups, community groups affected by the policy, the media and the policy evaluator.

Various problems faced by the community is not enough to just set a formal policy through so many failures in policy implementation, as it by Kartodiharjo

(2006, p. 31), to minimize the limitations, policies need to be put in at least five aspects, namely:

1) Values are shared;
2) Academic or empirical evidence already known the truth;
3) Getting political support, that gets a deal or win the votes obtained by the limits set representation;
4) Implemented by the organization or institution is capable perform it;
5) Be accepted by society at large, especially the direct contact with the running of these policies.

3. Methods

The research uses a qualitative research design with a descriptive analysis method. According to Creswell (1994, p. 173) argues that qualitative research is interpretative research. As such, the biases, values and judgement of the researches become stated explicitly in the research report. Such openess is considering to be useful and positive. The use of this method is to describe and assess qualitatively, extent of the formulation of local value-based recovery programs after disasters and social conflict in the province of Nusa Tenggara Timur.

Determination of the informants in this study are determined by purposive, with the snowball technique. At first the researchers met informants base, namely: members of the House of Representatives of the Republic of Indonesia, officials in the Regional Development Planning Agency, academic observers of social development who knows the other as informants or key informants. Key informants in this study obtained or known based on a recommendation from the base of the first informants researchers encountered.

4. Results and discussion

4.1. Overview Nusa Tenggara Timur Province

Nusa Tenggara Timur Province (NTT) consists of 20 regency and 1 city with a population of 4,679,316 inhabitants. NTT consist of 1,192 islands but only 42 inhabited islands, which lie between 8 º - 12 º South latitude and 118 º - 125 º East Longitude, with a total land area of 48,718.1 km2. In climatology, NTT is a semi-arid areas with low rainfall. Wet or rainy season is usually quite short about 3 to 4 months with average lowest annual rainfall of 800 mm and 3,000 mm high.

NTT province's economy depends on agriculture which contribute 39.62% of the Gross Domestic Product (GDP). NTT economic growth rate was 5.63% in

2011 while the growth in the national economy in the same year reached 6.46% (Gismar dkk, 2013).

NTT Human Development Index increased gradually in recent years. Yet low income levels and high prevalence of malnutrition in NTT puts ranked 31 out of 33 provinces in 2009 (Map of Food Security and Vulnerability NTT, 2010). NTT provincial government determined to bring prosperity to the community by Setting 8 (eight) agenda development strategy, namely: (1) strengthening the quality of education; (2) health Development; (3) economic development; (4) infrastructure development; (5) systems development of a righteous law; (6) consolidation of spatial and environmental stewardship; (7) empowerment of women, children, and young; (8) special agenda including poverty reduction, development of border areas, the development of the islands, and development of a natural disaster-prone areas.

NTT provincial government with the support of all local government in NTT province strive to develop their leading centers to make this area as a provincial livestock, corn provinces, sandalwood province, and the provincial cooperative. With largely topography of the area is hilly and mountainous, land slope reaches > 40% most of the production area is located on land with a slope of 8-40 °, consequently very high erosion potential and cause degradation rate of land resources is high, even vulnerable to natural disasters.

In the following table 1 shows the number of disasters in the province of NTT over the period 1992-2008.

Table 1: *The Type Natural Disaster in Nusa Tenggara Timur Province (Village Potential Statistics of Province Nusa Tenggara Timur, 2008)*

No	The Types of Natural Disaster	Frequency
1	Landslide	51
2	Flood	177
3	Flood with Materials	29
4	Earthquake	6
5	Earthquake with Tsunami	1
6	Tide	153
7	Tornado	223
8	Volcanic Eruption	5
9	Forest on Fire	53
	Total	**698**

The incidence of the biggest disasters that ever happened NTT province, which is earthquakes with tsunami in 1992, when the amount 152 dead, 2126 injured people (NTT Natural Disaster Management Agency, 2008).

4.2. Social Conflict in Nusa Tenggara Timur Province

The conflicts that have occurred since 2005-2010 in communities in the province of Nusa Tenggara Timur has caused many losses including the number of people who died 14 people, 259 injuries, losses estimated 681 billion Rupiah. In general, a conflict dominated by conflict over land, which is caused by: (1) the issue of ownership of Indigenous / indigenous, either individually or in groups, (2) Land

The latest incident happened is 20 attack on the home of inhabitant in the village of Langga Lete,Wewewa Barat, Sumba Barat Daya - NTT. The incident was triggered by a land dispute between the perpetrator and the victim that resulted in disaster. Chronological events namely: on 6 March 2013, 20 people attacked the victim who has just wrapped up happily on his new home. A three-year-old son was also hit by a stone in the head. The child was treated at Caritas Hospital, Waitabula (capital Sumba Barat Daya), but his soul is not saved. He died on March 10, 2013.

Land disputes in various areas in NTT, there has been a long time. Previously, also in June 2011, in the village of Reda, Southwest Sumba, five people were killed over a land dispute. (Peace and Policy Studies, 2013). As a whole in NTT from 2005 to 2010 the amount land disputes as many as 255 cases, of the amount of new 189 was already resolved 66 cases while in handling. (Report on the work visit Council of Representatives, 2010)

4.3. Design of Policy Formulation Based Local Value

Jun (2006) argues that accommodate local values are very vital in the formation of public policy, to reach the value of one of the models offered are social model. Design or social model is the interaction of two main dimensions, namely: (1) a value appreciation of relevant actors; (2) an orientation toward conflict resolution, problem solving, and change. The first dimention concerns an administrator's to listen to other voices, share in others experiences, and gain new knowledge. The second describes the administrator's orientation toward conflict resolution, problem solving, and change; the administrator's actions can range from proactive to reactive.

Furthermore according to the Jun (2006) social design is a synthesis between the rational and incremental design frame (science and art) offers a conceptual lens that leavens interactive processes with political and social skills. The public administration should be seen as science but more than science, more than art–constructive syntesis–with skillful administrators drawing from either or both perspectives to understand the complex dimentions and move their facilitative and deliberative process forward, anticipating contestation among the stakeholders and any actor who might be affected by the outcome of a decision.

The social design as a conceptual metaphor for this field because it goes beyond the range of the other approaches to include philosophical and social considerations that better represent the real world of public administration. Therefore, the social model is combines a high appreciation of the values of relevant actors by focusing on interpretation, understanding, sharing, and learning in organizational and social relationship and by taking a proactive stance regarding conflict resolution, learning, problem solving, and change. The essence of social design is develop of prosess that facilitates interaction and participation stakeholders in policy formulation.

In the process of policy formulation is created as viable alternatives are formulated through sosial interaction and networking among administrators, experts, politician, social groups, clients, and citizens associated with specific issues and problems. The process of social design assues that design participants work to create solution that are relevant to the problem and the means for implementing these solution.

Purposes and goals are socially constructed, developing out of human interaction, dialogue, and mutual learning. Political consensus is not then ultimate goal of social design. The focus, instead, is on understanding different ideas, experiences, and technical and social knowledge and on developing shared responsibility through decentralization.

Through this social model of the social conflicts can be overcome and find a way out. According to Schattschneider (1960) public policy can be seen as a conflict between various groups in society are different views and interests.

4.4. The formulation of Public Policy-oriented local value

The formulation of public policy is the beginning of a series of policy process, with the understanding that the actual formulation of policy will provide direction in order to implement the policy effectively. Results will direct policy formulation and impact to the people, that is the impact of not only the behavior of administrastif agencies responsible for implementation of and compliance with the target group, but also a network of direct and indirect political power, economic, social involved in the implementation of the program.

The formulation of programs or policies, may not be implemented in empty space, therefore environmental factors will affect the program formulation process. According to Lindblom (1968), in understanding the process of policy formulation we need to understand the actors involved in the policy formation process, both the actor and the actor is not officially authorized. The actors have a role, a form of power, have interaction with each other, and they watch each other.

This paper focuses on how policy formulation associated with local values . As noted by Anderson (1969) that in the formulation and formation of policies

to consider local values, due to the formation of policy is basically the result of a dynamic social process.

Policy formulation is a dynamic social process of implementation and continuous improvement of the policy as a result of changes in resources and environment. Winarno (2011), argued that in order for an organization remain alive, then changes may be made so that the organization can adapt to its environment. Changes taking place, both related to organizational resources and the environment should respond through changes to organizational policies. As such, the processes that occur within the organization regarding policy formation as adaptation to changes in society.

Based on the data obtained that the programs drawn up by the government based on local values indicated in the table 2.

One example of the program as shown in the table 2 is the Community Food Institutional Development Program, designed to; (1) institutional strengthening food security in support of rural household food security; (2) increasing the role of the community in the improvement of household food security. The main activities of this program are: (1) develop a model of independent food institutions in rural; (2) optimizing the role of social institutions in the rural culture of food security; (3) coordination of food security across sectors, regions, and actors.

Table 2: *Programs Based on Local Values (Nusa Tenggara Timur Province Local Regulation No. 2 of 2004)*

Item	Programs	Sector
1	The Program of Improvement Production and Productivity of Farmers.	Ekonomi
2	The Program of Institutional development of Community Food.	Economy
3	The Program of Cooperative Partnership Model Development	Economy
4	The Program of Improvement and Maintenance of Roads and Bridges Infrastructure	Economy
5	The Program of Settlement Facilities and Infrastructure Development	Economy
6	The Program of Development of Basic Education	Human Resources
7	The Program of Health Service Quality	Human Resources
8	The Program of Family Planning, Reproductive Health and Family Empowerment	social welfare
9	The Program of Strengthening Inter-Religious Harmony Life	religion
10	The Program of Rehabilitation of Critical Land	Spatial and the Environment

As a follow-up program has been drawn up, the government allocates funds for the implementation of the program to, as shown in the table 3

Table 3: *Financing Development in Nusa Tenggara Timur Province during 2006-2010 (Report of the Working Visit House of Representatives, 2010)*

Year	The Local Revenue (Rp)	Central Government Transfers (Rp)	The local Revenue (%)	Central Government Transfers (%)
2006	151.158.639.000	513.639.600.000	22,74	77,26
2007	191.852.909.366	657.845.006.000	22,58	77,26
2008	208.190.685.000	730.741.315.000	22,17	77,83
2009	223.882.850.000	1.536.272.665.334	12,72	87,28
2010	286.095.616.683	789.653.559.386	26,60	73,40

The data in the table 3 showed that the ability of local governments to allocate funds for the development is still very limited, which is only capable of 26, 60% of all outstanding loans. Central Government dominates the whole process of development financing.

5. Conclusions

The Local value as a public value for a particular locality are become very urgent for the guidance of government administration and development, government task is to accommodate local values in carrying out its duties and functions. This obligation is actually a form of government responsibility in the welfare of its people. In extreme Moore (1994) argues that the government should carry out the task of accommodating the local value through the creation of public value by arguing that managers should create public value encourages a kind of leadership, entrepreneurialism, and opportunism that should be reserved for those who run for office, not those who run public organisations. It gives public managers too much encouragement to lose the constraints of principle and effective democratic oversight and pursue their own self-serving or idiosyncratic notions of the public's interest.

The importance of this local value to be used as a reference for the government in making the program considering that society needs leadership from these managers to help it learn what is both desirable and possible to do in public domains for which these managers are temporarily responsible. Nearly always, the politics surrounding a public enterprise are sufficiently contentious to suggest several different plausible and sustainable conceptions of public value (Moore, 1995).

Related with the public value, Smith (2004) suggested the value of the public as a result of social and political interaction. Such interaction involves politicians, officials and communities. Focusing on public value enables one to aggregate issues for scholarly analysis in terms that should also make sense to citizens

and communities, political activists and people responsible for delivering public services. Focusing on public value can help communities, service providers and political leaders ask and answer a new and wider range of questions while continuing to learn from recent experience, however complex and contested. Therefore the value of the public can provides a path to reconciling democracy and efficiency through dialogue and exchange.

This study finds that formulation of value-based programs in recovery after disaster and social conflict implemented by the provincial government of Nusa Tenggara Timur successfully identifying local values so put it in local development planning. These programs are consistent with the needs and problems encountered by the affected communities and social conflict.

The formulated programs that are relevant to the local value consists of programs that derived from sectors of the economy, human resources, religion, spatial and the environment. Whole the program is related to the communities needs of the affected disaster and social conflict.

The ability of local government financing from local revenue to fund the program that is have not only capable of handling up to a maximum of 26.60%, while the remaining derived from central government transfers.

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Paper received: May 15th, 2014
Approved for publication: June 1st, 2014

Rad primljen: 15. maj 2014.
Odobren za štampu: 1. jun 2014.

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FORMULACIJA PROGRAMA OBNOVE BAZIRANE NA LOKALNIM VREDNOSTIMA (POUKE IZ ISKUSTVA PROVINCIJSKE VLADE ISTOČNA NUSE TENGARA – INDONEZIJA)

S a ž e t a k

Istraživanjem ćemo pokušati da utvrdimo kako se formuliše socijalna politika nakon elementarnih nepogoda i građanskih sukoba. Korišćena je metoda kvalitativnog istraživačkog dizajna, od skupljanja podataka kroz dokumentaciju i razgovore glavnih činilaca. Oporavak društva od elementarnih nepogoda i građanskih sukoba iziskuje veću umešanost države u formulaciji programa utvrđenih na bazi lokalnih vrednosti. Važnost takvih društvenih projekata leži u tome što daju osnovu u postizanju zajedničkih ciljeva korišćenjem društveno prihvatljivih vrednosti. Formulacija programa obnove bazirane na lokalnim vrednostima u isto vreme su i društveni dizajn, baziran na; 1) zahvalnosti ključnim činiocima; 2) opredeljenje ka rešavanju sukoba, problema i reformama. Prva dimenzija se odnosi na sposobnost rukovodioca da čuje i druga mišljenja, učestvuje u iskustvima drugih i stiče nova znanja. Druga se tiče posvećenosti rukovodioca rešavanju sukoba, problema i promenama, a potezi rukovodioca mogu biti od proaktivnih do reaktivnih. Istraživanje upućuje da je iskustvo lokalne vlade, provincije Istočna Nusa Tengara, u periodu nakon elementarnih nepogoda i sukoba takvo da bi svi iz tog iskustva trebali učiti, jer je uspešno formulisalo plan regionalnog razvoja bazirano na lokalnim vrednostima.

Ključne reči: lokalne vrednosti, formulacija politike, društveni dizajn

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UDC 330.341.4(669)
Original scientific paper

DEREGULATION OF THE NIGERIAN ECONOMY: THE THEORETICAL MILIEU

The deregulation of Nigerian economy was the main thrust of the Structural Adjustment Programme (SAP) introduced in the country in 1986 under the leadership of General Ibrahim Babandiga (1958-1993). Prior to that period the Nigerian economy was almost a command one with wide range of government control. Indeed, the introduction of SAP was said to be a final solution to the economic crisis faced by the Country. Unfortunately, SAP was introduced yet, the economy became more crunched. During the General Abach's regime (1993-1998), SAP was suspended out rightly. When General Abdulsalami Abubakar (1998-1999) took over, he continued pursuing the privatization programme which is a synonym of deregulation of the economy with the promulgation of another privatization decree. The civilian government led by President Obasanjo which took over from 1999 made deregulation the core with vigour. It is basked on this development that this paper intends to unravel the theoretical paradigm under which the deregulation of Nigerian economy could be explained. This includes capitalism, imperialism, colonialism particularly the incorporation of Nigerian into international capitalist system.

Key words: deregulation, economy, capitalism, colonialism, structural adjustment

1. Overview of the Nigerian economy

The Nigerian economy has been undergoing fundamental structural changes over the years. There is evidence, however that the structural shifts in the economy have not resulted in any appreciable and sustain economic growth and development. The economy which was largely at a rudimentary stage of development has been experiencing some structural transformation immediately after the country's independence since 1960. Unequivocally up to the early 70s, agriculture was the core of the economic activities in Nigeria. During that period, manufacturing and mining activities were at a very low level of development. The

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country's participation in the external trade was based on the level of economic activities in agriculture. Thus, agricultural commodities dominated the country's export trade while manufactured items dominated imports (CBN, 1993).

However, the oil boom of 1973/74 brought a new dimension into the economic activities of the country. The sharp increases in oil revenue from N735 million in 1972 (Ibid.) had a pervasive effect on the Nigerian economy. This was because the increase in revenue led to large increases inn public spending designed to expand infrastructure, non-oil productive capacity, human capital and to heal the wounds of the civil war that ravaged the country between 196t7 and 1970. In other words, the performance of Nigerian economic growth during 1975-1985 period has its antecedent in the quadrupling of crude oil prices in 1973-1974. The resulting large windfall gain enabled the country not only to expand the public investment almost three folds over the subsequent years but also to build up its foreign reserves. But many of those investments were carried out without sufficient attention to their economic viability (Oyejude, 1991).

These rising wages and an appreciating domestic currency squeezed the profitability exports of non-oil exports, while cheap imports competed with domestic food production. As a result, the country's resources shifted from the production of non-oil traded goods mostly agricultural to hat of non-traded goods mostly public services. Thus, the emergence of the oil boom, relegated agriculture to the background and within a short period, Nigeria became a major food importer which cost the country N116.40 billion (1998), N119.87 billion (1999), N134.81 billion (2000) and N174.76 billion (2001). In addition, production of export crops declined substantially, making the country dependent on a volatile international oil market for almost all her export earnings and most of the Federal, State and Local government revenues (Shariff, 2004).

Consequently, with the sharp fall in the international oil price in the early 1980s, early 1985 and late 1986, Nigeria's economy was almost at the verge of collapse. This led to the country's built up of large fiscal and external deficits and other macroeconomic imbalances which ensured. To address this problem, government introduced several policy measures which started with the Stabilization Act or 1982, budget-tightening measure of 1984 and finally the 'Structural Adjustment Programme (SAP) of late 1986. SAP was aimed at laying the foundation for a self-reliant and dynamic economy. The corner stone of the SAP is the deregulation of the economy in other words called privatization of the economy.

Indeed, SAP was aimed through the combination of exchange rate and trade policy reforms, at revitalizing the non-oil sector of the economy with stabilization policies in order to restore the Balance of Payment equilibrium and price stability. SAP emphasized the downsizing of public sector and improving the efficiency of public asset management. Import license and agricultural marketing board were eliminated, price controls were lifted and liberalization of the financial system was almost important instrument of stabilization (CBN, 1993). However, the

problems of internal and external imbalances and the undue depend fenced on oil which brought about the adjustment problems still persist. This implies that there is as relative insensitivity of the economy to the corrective policies.

It should be noted that, the genesis of deregulation of the Nigerian economy could be hinged substantially on the economic crisis faced by the country. This economic crisis could be traced to the lopsided character of the post-colonial developmental path followed by the country. The foundation of this lopsidedness was laid from 1945 when the country was under colonialism. During the period, the country in alliance with foreign capital promoted import-substitution industrialization. This was carried out through the use of peasant surpluses to fiancé the importation of the inputs necessary for the growth and expansion of manufacturing activities (Olukoshi, 1993).

In explaining the causes of this economic crisis sin Nigeria many reasons have been adduced. Some of these reasons emanated from the neo-capitalist Economist the nationalists and the neo-Marxist. The neo-=capitalists, toeing the Nigerian official line, submitted that it was the international oil market glut and the rescission in the world market rather than domestic reason that the economic crisis. And that the solution is for the world market to return to the path of economic expansion before Nigerian economy could improve. The Nationalist, it was the prevalent of fraud and mismanagement of Nigeria resources that caused the economic crisis. And that as far as such attitude continues definitely the economy would never be back on track. To the neo-Marxist, the economic crisis could be anchored on specific role of contractors, consultants and middlemen and their various ruinous activities. That, the way in which the patron client network operates contributed to the country's economic decline. It suffices to say here that; the Nigerian economy is characterized by lack of organic linkages between agriculture and industry, production and consumption an autochthonous capital base, development of indigenous manufacturing sector, balance of payment problem, heavy debt burden, low gross domestic product (GDP), labour inflexibility, high unemployment rate, inadequate provision of social services and poor maintenance of infrastructural facilities, the near collapse of the manufacturing sector etc. (Ibid:57).

2. Conceptualization

Deregulation of a Country's economy could be conceptualized as privatization, divestiture, and marketization of the economy. In essence no government but private participation in the Country's economic activities. This is kin order to ensure competitive economic system devoid of monopoly and allow price mechanism of demand and supply's principle of economy to prevail. According to Ahmed (1993:iii). Deregulation of an economy entrails according greater

weight to the private sector as the prime mover of the economy's opposed to the emphasis son the dominance of public sector. To achieve this objective, greater role are assigned to market factors as against the use of pervasive administrative controls. This is aimed at stabilizing and fundamentally restructuring the economy and places it on a durable and suitable growth path.

As a major solution to the economic crisis experienced in Nigeria, in 1986y Structural Adjustment Programme (SAP) was introduced with the central aim of deregulating the economy. To Ayodele (1994), Privatization in other words deregulation is one essential aspect of price and market reforms which entrails both unshackling private sector development through removal of government restrictions on private economic activity and divestiture of the state assets particularly State Owned Enterprises (SOEs) into private hands.

The main objectives of deregulation include: introducing a market economy; increasing economic efficiency; establishing democracy and guaranteeing political freedom and increasing government revenue (Dhaji and Milanovic, 1991). It is also assumed that economics based on private prosperity a re better institutions for preserving individual freedoms than economies where the productive apparatus is socially owned (Ijhaiya, 1999). Moreover, for government to be effective, it has to restrict itself surely to the areas of governance and within that duty provide guidelines for the operation of economic activities which can be performed better by private individuals. This is needed the situation under which deregulation of the economy is introduced in Nigeria.

3. The theoretical milieu

The theoretical foundation of deregulation draws largely from the general equilibrium theory which among other things indicates the relevance of efficient pricing in ensuring optimal allocation of society's limited resources for efficient production of the various needs of society and efficient distribution of the commodities and services among various consumers. Thus, the concept of perfect competition and free market imply that the general equilibrium analysis will tend to yield an optimal allocation of resources since competitive equilibrium prices ensures that supply and demand are equal and in the long-run, all firms which can produce profitably will enter the industry to ensure long-run stable and sustainable growth (CBN, 1993).

It is obvious that such optimality results cannot be achieved under centralized planning or command economies which depend on elaborate control. This is because such system is hardly able to arrive at a set of efficient prices which will ensure that all firms maximize their profits by covering their costs and earning reasonable margins, while consumers maximize their unity. And even in recent

times, there has been some ferment in economics about the role of the state in economic life (Killick, 1989).

Traditionally, the state's economic role has been defined in terms of a reasonability to correct or eliminate various market failures which place serious limitations on the allocative efficiency of the free market and justify the need for government intervention. Foremost among these are failures of competition, existence of externalities, incomplete markets, information failures, public/merit goods, macro economic instability, creative failures and poverty/inequality. Although development economists no longer assume that the existence of market failures constitutes adequate cause for state interventions. This is because, experience, especially in the peculiar circumstances of developing counties, has taught that government has a duty to rectify these failures through the use of taxation and subsidies to moderate if not remove the observed distortions arising from the market failures. Even among the Socialist Economist (Social Democrat), the case of market globalization is widely accepted (Ibid).

Importantly, there is indeed a symbiosis among capitalism, colonialism and imperialism as theoretical milieu underlying deregulation. Colonialism which implies the policy and practiced of a strong power extending its control territorially over a weaker nation or people has a long history but commonly regarded as an attribute of the late 19th century imperialists who conquered large tracts of the globe to find themselves ruling area. Indeed, colonialism of that latter period had been usually used pejoratively to denote an unwarranted sense of racial superiority and the set of at tributes, beliefs and practices that sprang from it Walter Rodney, 1985).

That is, the contradiction in capitalism in terms of the transplanting reduced the rate of profit and arrests the capitalization of surplus blue in the western world in the 19th century. In addition to this development was the sole aim of profit maximization by capitalism both of which culminated in the need for a new environment in which the process of accumulation could continue. Therefore, the capitalists turned to foreign lands, attacked and subjugated them and integrated their economies to those of Western Europe through colonizing imperialism. To date that experience of western imperialism, particularly colonialism cum capitalism remain the most decisive phenomena in the history of Nigeria like any other colonized countries of the world (Ibid.).

Unequivocally, colonialism severally decaptialised the third World Countries, distorted and dislocated their economic and social systems. Their economics were disarticulated and specialized unconsciously in the production of raw materials to the metropolis in an international market with unequal exchange. Thus, the colonized periphery countries were made to depend on the metropolis (the developed countries) for almost everything. Base on this promise, it could be concluded that the deregulation of Nigerian economy is an idea packaged and

sold by the metropolis thorough their agencies such as World Bank and International Monetary Fund (IMF) (Thonvbere, 1989).

Moreover, the classical political economy which is capitalist was more concerned with the best way to engage in the production distribution, exchange and consumption of goods and services with no role for government but the market in such growth and development. The aim was to remove encumbrances placed by ambitious governments and bureaucrats on the free operation of a market economy and therefore in favcour of the market economy with its vaunted claim to efficiency (Mishan, 1983). In the bid of classical political economy to preach and promote capitalism and liberalism, it argued essentially, that a nation's true economic wealth is derived from the industry and the economic right of the people to choice. That the state should therefore only engage in the provision of internal and external security. It further argued against the various restrictions in international trade. Based on this premise, the current deregulation of the Nigerian economy could be said to have its root in the contest of the classical political economy and should be situated therein (Momoh and Hundeyin, 1999).

Furthermore, the world economic system that is essentially capitalist promotes an international division of labour in which the industrialized Capitalist Countries (IOCs) produced the manufactured goods while the third World Countries were forcefully made to produce raw materials needs of the IOCs whose price are determined by the latter. This unjust and unbalanced international division of lab our began through the process and logic of colonialism driven by imperialism and currently propelled through the political legislation of the Bretton Woods system as represented by the World Bank and IMF which hegemoniezed the Euro-dollar as an international currency of convertibility and a god reserve (Onimode, 1988).

In order to sustain this world economic system an international capitalist financial system was established made up of multilateral institutions comprising General Agreement on Tariffs and trade (GATT), the International Monetary Fund (IMF), the World Bank Group; International Reconstruction and Development (IBRD), International Development Agency (IDA) and the International Financial Corporation (IFC). The World Bank and IMF were established to help give aid to European countries to enable them come out from ruins of the First and Second World Wars in order to reconstruct their economies. Unfortunately, their orientation and policy objectives changed with time. AS ARGUED BY Onimode (1988:278).

Since 1979, IMF has been offering more assistance to third world countries under its stands-by arrangements of Extended and Facility, with preconditions. Similarly, the IMF gives :letter of intent" (clean bill of health) to member states that are in need of World Bank loans with harsh conditionalities among which is the deregulation of the economy among others. And even a look at those conditionalities reveals their pernicious effect on the countries such as Nigeria which

are caught in a "debt trap" have to take the bitter pills. Unequivocally, the adoption of the policy measures and initiatives couched in economic liberalism or deregulation of the economy has further pauperized the third World Countries and made their economic crisis assume a tragic proportion. In a nutshell, the activities of the World Bank and the IMP have in recent times further contributed to the underdevelopment of the Third World Countries such as Nigeria and have made them to be more dependent on and subservient to the West (Momoh and Hundeyin, 1999)P. Unequivocally, the basis of the World Bank and IMF conditionality is the deregulation of the economy which has also been added to the democratization of the polity.

Thus, this IMF conditionalities such as trade liberalization, monetary anti-inflationary measures, fiscal anti-inflationary programmes, anti-inflation control, wage increase, anti-inflationary dismantling of price controls and minimum wages door policy on foreign investment and Multinational Corporation: reduction of spending on social services and privatization of public enterprises`1 are part of the deregulation of economic process.

4. Conclusion

The deregulation of the Nigerian economy as discussed in this paper is no doubt has a capitalist undertone with the notion that capitalism produced colonialism and imperialism. Unfortunately, right from the time the Nigerian economy began to be deregularized as part of SAP in 1986 it had only succeeded in pauperizing a larger population of the country. And even with the emphasis on the deregulation of the economy of the economy of the present civilian government in the country the material condition of the citizens is yet to improve.

5. Recommendations

Based on the development, that deregulation of the Nigerian Economy implies privatizations and privatization is based on maximization of profit. Consequently, majority of Nigerians 70% of whom are below poverty line might not be able to afford those deregulated goods and services. Therefore, the current government in Nigeria should review its deregulation policy. This is because an economic system that could not improve the material condition of the majority of the citizens of a country is not a good economic system. Though, the deregulation of economy policy might have been successful in developed countries, it has been a failure in developing countries due mainly to differences in socio-political environment. Therefore, the deregulation programme should either be discarded or refined in Nigeria.

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Paper received: May 15th, 2014
Approved for publication: June 1st, 2014

Rad primljen: 15. maj 2014.
Odobren za štampu: 1. jun 2014.

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DEREGULACIJA NIGERIJSKE EKONOMIJE U TEORETSKOM OKRUŽENJU

S a ž e t a k

Deregulacija nigerijske ekonomije bila je glavni deo Strukturalnog programa prilagođavanja (SAP) koji je stupio na snagu 1986 godine, pod rukovodstvom generala Ibrahim Babandiga (1958-1993). Do tada je nigerijska ekonomija bila komandna ekonomija, pod kontrolom vlade. Smatralo se da je uvođenjem SAP-a, pronađeno konačno rešenje za ekonomsku krizu sa kojom se suočavala zemlja. Nažalost i posle uvođenja SAP-a, ekonomija se nalazila u kritičnoj situaciji. Tokom režima generala Abacha, (1993-1998), SAP je sa pravom suspendovan. Kada je general Abdulsalami Abubakar (1998-1999) preuzeo vođstvo, nastavio je sa sprovođenjem programa privatizacije, koji je sinonim za deregulaciju ekonomije, kao i sa sprovođenjem uredbe o proglašenju privatizacije. Civilna vlada koju predvodi predsednik Obasanjo od 1999. godine napravila je jaku jezgrovitu deregulaciju. Ovaj rad koji ima tendenciju da razotkrije teoretsku paradigmu pomoću koje se može objasniti nigerijska ekonomija. Ona uključuje kapitalizam, imperijalizam, kolonijalizam te posebno korporaciju Nigerijaca prema internacionalnom kapitalističkom sistemu.

Ključne reči: deregulacije, ekonomije, kapitalizam, kolonializam, strukturno prilagođavanje

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UDC 005.521:334.7
Original scientific paper

MARITIME CLUSTERS PRODUCTIVITY AND COMPETITIVENESS EVALUATION METHODS: SYSTEMATIC APPROACH

Many scientists underline the importance of the clusters as agglomerated industries, working for the same purpose with joined resources and potential. This article analyses the basic assumptions which turn organizations to be clustered: the Productivity and the Competitiveness. For the evaluation of those assumptions in Maritime Clusters, many of the methods practically are applied without systematic approach – some are focused to the port efficiency, others provide quantity of resources growth dynamics, infrastructure parameters or even explain productivity and competitiveness as the same assumption. This article presents the analysis of Maritime Clusters' Productivity and Competitiveness evaluation methods in systematic approach, providing the analysis on the mostly-used variables and parameters of the evaluation the assumptions to be examined.

Key words: clusters, competitiveness, evaluation methods, productivity

1. Introduction

Fostering Maritime clusters is a way to enhance the competitiveness of regions and industry agglomerations, stimulate innovation, find ways to conserve and share resources, reduce business costs, and create sustainable employment in regions. The theory and practice of maritime cluster development effects and impacts to competitiveness and productivity is relatively new, but shows considerable efforts in helping to make the development of economies in the region more sustainable.

Summarizing many of the different scientists presented assumptions of Maritime clusters, two basic ones are analysed in this paper: the Productivity

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and the Competitiveness. The Productivity is defined and presented from internal subject and capacity point of view; the Competitiveness is more linked to be presented from external variables and factors entire. Both of them are widely used in many of studies and reports, while calculating impacts and effects, capacities and potential, investments and innovations environment. The systematic approach of productivity and competitiveness evaluation may increase more objective and wider, more inclusive application of evaluation methods to be used and results to be obtained by following those techniques.

The main goal of this article – to analyze the Maritime Clusters' Productivity and Competitiveness evaluation methods in systematic approach: define statistically significant variables, which lead us to apply appropriate evaluation method for the assumptions to be examined.

Methods to be used: qualitative analysis of provided technique, scientific literature analysis and synthesis, analysis of statistical evaluation programs parameters.

2. Productivity evaluation methodology

The standard notion of productivity in maritime cluster refers to the productive efficiency of a given workforce that is labor productivity, measured in terms of output per input of labor (Gardiner, P. et al, 2004). Productivity analysis is relatively simple if there is only one type of input to produce one type of output (Coelli, 2005). In this case it is simply the ratio of output and input which makes it easy to compare companies as well as sectors (clusters) one to each other. However, in reality, various inputs are used to produce various outputs. In such cases, partial productivity is measured, e.g. output per worker, output per working hour, etc. Though these ratios are very limited and might be misleading. Thus, more elaborated analysis of productivity is necessary.

2.1. Total or partial factor productivity

Productivity analysis is very flexible, depending on the objectives either total factor (multifactor) or partial productivity can be estimated. Total factor productivity is estimated including various types of input and is more appropriate to evaluate total productivity of cluster. Main inputs are capital and labour, however, material and energy are sometimes met in various studies of productivity. Partial productivity can be either capital or labour productivity, and then accordingly only one type of output is chosen, i.e. capital or labour (number of employees or number of working hours).

The easiest way to compare productivity of two enterprises in cluster is their profitability i.e. ratio of income and expenditure. One should be careful as prices

here are essential (both input prices and output prices). There are cases when one company has an advantage to access cheaper inputs or to sell production at higher prices. Thus, it is recommended to eliminate the effect of prices using prices deflators.

2.2. Productivity evaluation methods

There are various methods to estimate productivity out of which there are four the most common ways to measure it.

First way to measure productivity is to compare production growth with output growth which is known as Hicks Moorsteen index.

$$\text{HM index} = \frac{\text{(production growth)}}{\text{(input growth)}} = \frac{\text{(production quantity index)}}{\text{(index quantity index)}}$$

Even though it is easy to estimate and interpret this index, yet the reasons of productivity growth are not easy to be identified. Productivity growth may be caused by technical change or by increase in efficiency.

Total factor productivity (TFP) can also be measured by profitability growth after regulating price changes (by price deflator):

$$\text{TFP} = \frac{(R_t/R_s)\,/\,\text{(production price index)}}{(Ct/Cs)\,/\,\text{(input price index)}}$$

Where C_i is cost at time i, R_i is revenue at time i. As the effect of price changes is eliminated, total factor productivity depends on technical change or technical, allocate and economies of scale efficiency.

One more way to measure productivity is known as Caves, Chsitensen, Diewert (CCD). Generally, their idea was to compare current production with maximum feasible production (using the same technology and production set). This index is calculated from output and production distance functions.

The last method is to measure all sources or productivity and its components i.e. technical change, efficiency change and return on scales separately. Afterwards all these values are summed in order to get total factor productivity. This method is explained more in detail by Balk (2001).

Malmquist index is well-known total factor productivity index. It measures TFP change between two time moments as a ratio of distance between two points of certain technology (Coelli, 2005). Technical change and efficiency change can be estimated separately by this index.

Thus, if the objective is to find the level of productivity or its change without necessity to identify the source one can use Hicks Moorsteen or Malmquist TFP

indices. However, the later requires wide range of panel data. On the other hand, second method is more applicable in financial analysis.

2.3. Productivity analysis appliance

Productivity analysis often is used for measuring Maritime cluster companies input to general economic cluster result. There are two ways of maritime clusters choice of productivity analysis appliance: to evaluate sectorial productivity and to evaluate Firm-linked productivity.

2.3.1 Sectorial productivity

In the analysis of airline performance and productivity growth Barros and Couto (2013) calculate Luenberger and Malmquist indexes, where they use revenue per passenger per kilometre and revenue per ton of cargo as output variables and number of workers, operational costs and number of seats as input.

If technology is a set $T \subseteq R_+^N \times R_+^M$,
then$T_t = \{(x_t, y_t): x_t canproducey_t\}$, where $x_t \in R_+^N$ is input vector and $y_t \in R_+^M$ is output vector at time t.Then directional *distance function* $isD_t: R^{n+p} \times R^{n+p} \to RU\{-\infty\} \cup \{+\infty\}$, where direction is g = (h,k) from which Luenberger productivity index can be calculated.

Fare et al (1994) analysed 17 OECD countries efficiency by Malmquist index. In his study production variable is Gross domestic product of a country while equity of all enterprises and work are considered as output. Every country is compared to the best practice productivity frontier that is created from the countries all around the World.

When Chang and Oxley (2009) evaluate the effect of geographical innovation to total factor productivity, the later is calculated for each enterprise, from values of which average sector's (cluster's) total productivity is derived. Total factor productivity is measured by this function:

$$Q_i=F(X_{1i},X_{2i},X_{3i},X_{4i}) \text{ where}$$

X_{ij} with j=(1, 2, 3, 4) are accordingly capital, labour, energy and materials. Later functional form needs to be chosen, in practice, trans log function as being the most flexible is the most common.

However, Martin et al (2011) apply Cobb-Douglas TFP function to industrial (it can be applied also to maritime) clusters of France and use general method of moments instead of OLS to find coefficients.

There are a few studies of Cullinane et al (Cullinane et al. (2002), Cullinane ir Wang (2006), Cullinane ir Wang (2010) about the efficiency and productivity

of Asian container terminals where Stochastic frontier analysis and Data Envelopment analysis were applied. According to the researchers containers throughput is the most important and the most common output variable in studies about container and port productivity. Cullinane et al (2002) describes throughput as the number of containers moving through the territory of quay or it can be expressed in monetary terms as the revenue related to this process. Whereas, as input variables length of terminal, area of terminal, equipment that is necessary to move cargo (various types of cranes) is chosen. In their later studies as the most significant variables were used terminal length, area, gantry cranes and straddle cranes. Moreover, according to Cullinane et al (2005), including the number the most important (and necessary) equipment moving the biggest amount of cargo, that in container (or port) sector are yard gantry cranes and straddle carriers handle cranes, is sufficient for the analysis.

Díaz-Hernández et al (2008) with reference to Cullinane analysed ports of Spain during the reform and declared that productivity function comprise of three variables: containerized general cargo, no containerized general cargo, solid bulk and other two types of variables that are working hours of cranes and workers.

2.3.2 Firm-level productivity

Some authors (Giuliani et al, 2013; Hulten, 2001; Syverson, 2011) use productivity as outcome variable of measuring efficiency in Firm-level. Despite of Firm-level productivity variable, as part of efficiency measuring, there are also outcome indicators groups to be involved: Export-related indicators, Innovation-related indicators and Employment-related indicators. On this point of view, Firm-level productivity covers those indicators: Annual value of production, Number of employees (number of permanent and temporary employees), Materials (value of materials used in the production process), Capital stock (net book value of machinery and equipment) and Labor cost.

Measuring productivity is not simple task. There are several measures relating to the productivity of companies, two of which are to consider the productivity of one input, such as labor productivity, or to consider the productivity of all inputs, such as total factor productivity. With regard to total factor productivity, all matters related to the measurement of input and output, are present and change in output cannot be explained as change in input (Giuliani et al, 2013). Several methods exist to obtain total factor productivity, all of which hint to varying assumptions relating to the production process and the degree to which the market is competitive. This suggests that each method has strong and weak parts.

When the interest is in the productivity or maritime industry, cluster or of a geographical region, it is also important to study the reallocation of resources between firms. If more productive maritime companies gain market share, there

is as improvement of the aggregate level of productivity, since the aggregate level of productivity over headed average of the productivity of each unit. The weight is the market share, but in some cases, the employment share also is used as the weight. So to gain the effect at the aggregate level, it is necessary to evaluate its effect on the productivity and growth-measured by sales or employment – of each firm and on the firm's decision to enter or exit the market (Van Biesebroeck, 2007). There are several variables that are related to productivity: value of exports, R&D expenditures, technology adoption and innovation.

3. Essentials of competitiveness analysis methodology

A cluster is competitive if it is able to generate synergetic advantages through innovation and the efficient use of resources across company and industry borders. Competitiveness on the cluster level can be measured by looking at the market shares, the growth of value added and the gross production of the cluster (Viitanen et al, 2003).

Maritime clusters enhance competitiveness of economies in many ways: by development of networks, by development of innovation systems and innovative milleaus, by investment Spin-Offs from research and development outcomes and others.

Competitiveness analysis as any other analysis can be performed from various points that depend on nothing but prior objectives of the every study. There is a vast majority of methods, models and indices that might be applied, as well as intersect with each other and be supplemented. Also scientific literature covers the competitiveness meaning in majority of different meanings and variables; competitiveness analysis includes most of the elements, analysed in productivity chapter.

According to macroeconomic theory, revealed comparative advantage uncovers the advantage of international trade of one country against another.

The most frequent methods of competitiveness analysis are Porter's Diamond model and Analytical Hierarchy Process model that may follow after other methods such as experts survey according to which results the most important factors are anticipated.

Moreover, corporate finance is not less important issue in competitiveness analysis. Indices such as return on investment (ROI), return on assets (ROA) are worth to be evaluated and compared. Apart from these value added growth and market share are common in this type of studies.

Herciu (2013) analysis of International Competitiveness of Romania comprise of two parts. Firstly comparative advantages and disadvantages were identified and evaluated by the model of Porter's Diamond and later in the analysis revealed comparative advantage was estimated.

Comparative advantage is found by the following formula:

$$RCA_{ij}=(X_{ij}/X_{wj})/(X_i/X_w), \text{ where:}$$

X_{ij} – export of good j from country i,
X_{wj} – export of good j worldwide,
X_i – total export from country i,
X_w – world export.

The range of value is from minus infinity to plus infinity. Positive value means comparative advantage, while negative value has a meaning of comparative disadvantage.

J. Tongzon, W. Heng (2005) evaluated port competitiveness by the index, where total throughput is chosen as a proxy and the significance of all the determinants is estimated by running a regression. According to their results adaptability of a port to changing customer needs is the crucial factor in competitiveness of a port. Other less important determinants are investment in marketing and Port selection preferences of carriers and shippers.

Port competitiveness analysis and competitiveness strategy development can also be evaluated by less common multi criteria decision making methods as PROMETHEE, Technique for Order Performance by Similarity to Ideal Solution (TOPSIS), Gray Relation Analysis and Hierarchical Fuzzy process (Lirn et al., 2003, 2004; Ugboma et al., 2006; Castillo-Manzano et al., 2009; Guy ir Urli, 2006; Celik et al., 2009; Teng et al., 2004; Huang et al., 2003; Yeo and Song, 2006) (Lee Lam and Zhang).

3.1. M.Porter "Diamond" model adoption

Porter in 1990 created a model that is called Porter's Diamond that later was modified by various scientists (Trabold (1995), Krugman (1996), Aiginger (1998), Mitschke (2008), etc.). According to the model, in microeconomic level competitive advantage is determined by factor conditions (natural conditions such as location and climate and human created conditions – telecommunications, energy maintenance, high quality universities, laboratories, quality of financial services, quality of the whole infrastructure, etc.), demand conditions (that include size of the market, trade taxes, R&D investments, etc.) and related industries, where the quality and the quantity of the providers play the main role). Beside microeconomic conditions there are macroeconomic factors that are not less important as the later ones, these are government and unpredicted events. When all these conditions are put together the way they intersect one with each other created the nature of international competitiveness (Sirikrai and Tang, 2006).

Not only researchers, but also Cities Communities for equitable development adopt Porter's diamond model for the evaluation of relative competitiveness (Choe et al, 2011). Analysis use cardinal or alphabetic scale or symbols ("+"or "-") to score the strength of five conditions. Besides, chance is a random occur-

rence, so it is not generally included in the analysis. Total amount of elements under the five conditions are analyzed for each cluster using a semi-qualitative scoring method. The relative competitiveness of each condition is measured on a numeric scale of 0-5. A Delphi technique is used in scoring (Bordecki, 1984). The scores recorded by the assessors are averaged then discussed and adjusted to arrive at the final score for the industry cluster.

The next step of the analysis involves what are the gaps in the competitiveness conditions and elements of a cluster. Where are the significant differences, the need of action to strengthen the weak elements and improve a cluster's overall competitiveness and economic performance is indicated (Table 1).

Table 1: *Sample analysis of Competitive Elements of Clusters using Porter's Diamond Model (Choe et al, 2011, p. 107)*

Competitive element	**Current status**	**Requirements for future Competitiveness**	**Actions**
Markets			
Expanding domestic and local markets	3	1	Market intelligence
Expanding export markets	2	4	Collaborative marketing
New products			
Demand expansion capacity for new products	2	4	New technologies
Responsiveness to change and innovativeness	2	3	Change management

The analysis of competitiveness deficiency gaps provides an indication of the strengths and weaknesses of the five factors affecting the competitiveness of industry clusters as well as the potential threads and opportunities facing the development of an industry cluster. Projects and programs that should be considered in an action plan to strengthen the industry cluster and promote industry cluster development can be identified on this way.

3.2. Essence of the Analytical Hierarchy Model

Analytical Hierarchy Model (AHP) that was found by Thomas L. Saaty in 1970's and applied for many years in mathematical decision making, nowadays may help to identity and evaluate, which indicators of organizational behaviour and to what level are important when competitiveness of a sector is being analysed (Sirikrai, Tang, 2006). Moreover, the model that enables to measure the

importance of factors helping organizations to perform better compose of three steps:

1) organizing a problem to a hierarchical structure;
2) prioritizing elements in the model;
3) making the final decision according to the results.

In the study of competitiveness of ports Yuen et al (2012) apply the AHP model that consists of three levels. The objective level is port competitiveness, that is succeed by the second level – determinants of port competitiveness (such as port location, port expenditure, port equipment, operators, information systems, communication services in port territory, customs and government regulation). The factors were carefully selected from antecedents. The third level is made of sub factors that expand in each category of the later. In order to select the crucial factors, authors used Government specialist and Decision maker's surveys. All factors and sub factors were weighted in accordance to the results of surveys.

3.3. Financial and non-financial indicators importance

Financial indicators reflect the financial management part of the unit. However, the overall performance of one depends on many other factors that are necessary to be evaluated.

Benito et al (2003) analyse international competitiveness of Norwegian maritime cluster through revealed comparative advantage and OECD market share as well as sales, creation of net value, return on assets, capital return, export of sales and services.

According to Viitanen (2003) cluster is competitive if it is able to generate advantage of synergy through innovations and effective use of recourses. Market share, value added growth and total production of a cluster are its determinants. The researcher also applies Porter's Diamond model that was explained above.

Sirikrai and Tang (2006) apart from the return on assets consider return on investments as the indicators of competitiveness. They suggest to pay attention to other, non-financial indicators: satisfaction of clients, market share, sales and sales growth. When one evaluates financial as well as non-financial indicators, wider analysis is accomplished.

4. Conclusions

Although there is considerable debate amongst academics for the precise definition of productivity, there can be agreed that productivity represents ones of its most important competition measure elements, which may be presented by

using not just financial, but also non-financial indicators, marketing and strategic management techniques.

In this paper, we have investigated some of the conceptual and measurement problems that arise in measuring assumptions of maritime cluster productivity and competitiveness: Firm-related and industry based Productivity analysis methodology differ; Export, Foreign investment, Innovations and Employment are the variables can be met in both assumptions; many of input and output variables are used accordingly to the developed models, which also are flexibly modified and adopted by the authors.

Total factor productivity "traditional" inputs are capital and labour, however, material and energy are sometimes met in various studies of productivity. Partial productivity covers capital or labour productivity, and then, accordingly to previously chosen variable - number of employees or number of working hours. Hicks Moorsteen index, Luenberger and Malmquist indexes are mostly used as Productivity measurement tools; Total factor productivity is mostly universal tool for Productivity measurement in cluster and Firm-based levels.

Although many of criticism follows with the classical models of competitiveness evaluation, the Porter "Diamond" model and Essence of the Analytical Hierarchy Model still remain as mostly practically used ones.

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Paper received: May 15th, 2014
Approved for publication: June 1st, 2014

Rad primljen: 15. maj 2014.
Odobren za štampu: 1. jun 2014.

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POMORSKE SKUPINE PRODUKTIVNOSTI I KONKURENTNOSTI METODE PROCENE: SISTEMATSKI PRISTUP

S a ž e t a k

Rad analizira osnovne pretpostavke koje pretvaraju organizacije u skupine: produktivnost i konkurentnost. Za procenu ovih pretpostavki među pomorskim skupinama, primenjuju se mnoge metode bez sistematskog pristupa - neke su fokusirane na efikasnost luka, dok druge metode obezbeđuju količinu rasta resorsne dinamike, infrastruktualne parametre i objašnjavaju produktivnost i konkurentnost u istoj pretpostavki. Ovaj rad predstavlja analizu pomorske skupine, njene produktivnosti i konkurentnosti, metode procene u sistematskim pristupima, pružajući analizu najčešće korišćenih varijabla i parametara pri proceni pretpostavki koje trebaju biti ispitane.

Ključne reči: skupine, konkurentnost, metoda procene, produktivnost

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UDC 005.96:614.2
Original scientific paper

USING SIMULATION TO IMPROVE HOSPITAL RESOURCE MANAGEMENT

Emergency Department is a primary health care unit of hospitals, and usually one of the main entrances to the hospital and a key part of the health care system. Increasing demand for emergency care, overcrowding and limited resources are phenomena that cause much delay for patients in ED. In other hand, because the philosophy of creating ED, patient shouldn't stay too long in ED. Long waiting time led to congestion and disturbance in ED process. This study seeks to reduce patient's waiting time and length of stay in ED. By noticing simulation result increasing 3 beds and 1 GP that cause17.4% improvement in bed utilization and 35.1% in GP utilization, and improve average waiting time for visiting GP and average waiting time for hospitalization 82% and 86 % respectively and 8 % decrease length of stay is the best scenario.

Key words: emergency department, length of stay, resource allocation, simulation

1. Introduction

Healthcare system is one of services with rapid growth in both developed and developing countries. The first aim of this system is to improve the quality of services and health of people in their daily life. Patients are the main focus of health care system can they be considered as customers with different expectations in this complex systems (Faezipour & Ferreira, 2013). In recent years, changing pattern of disease, progression in medical knowledge and technology, public awareness of modern medical facilities along with increasing the elderly population cause more demand for medical services. This increased demand has led to more pressure on the health care budget. So, trying to prevent the rising

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costs of healthcare by better using of scarce resources is a major challenge for manager (Ferreira, Gomes, & Yasin, 2011).

Emergency Department is a primary health care unit in hospital and it is usually one of the main entrances to the hospital system. Due to the sensitivity and importance of its work it has special attention among other parts of hospital such that how to provide services in this segment can represent the overall status of hospital services. Properly and correct and timely function in ED can save many lives of patients. This requires good understanding and scrutiny of the current situation in this sector. In many cases, lack of resources such as beds, GPs and nurses in the care process prevent timely and suitable services and reducing health care quality and increase potential medical errors, long waiting times and patient's length of stay that all of them have unpleasant consequences for patients and also higher costs and unintended consequences for many service providers. Hence, achieving a better balance between supply and demand can improve service quality and bring satisfaction for patients in the emergency department (Xu, Wong, & Chin, 2013). In past years the result show that conventional models for higher quality of service and solving these problems in healthcare system have been failed. Thus, authorities are seeking to creative and scientific methods (Ferreira, Gomes, & Yasin, 2011). In this regard, many organizations in attempt to overcome this varied challenge are using simulation as an aid for planning and allocation of resources (Alkaabi, El Halim, & Mahmoud, 2006).

2. Literature review

Resource allocation is one the oldest areas of operations research in healthcare (Brailsford & Vissers, 2011). Because of the importance and specific conditions of healthcare there is a lot of effort for budgeting and resource allocation to maximize the use of scarce resources. For example, (Ahmad, Abdul Ghani, Abdulbasah Kamil, Mat Tahar, & Howe Teo, 2012) in their paper present a computer simulation model to assess use of resource utilization in the emergency department of a public hospital in Malaysia. By using this model administrators can monitor the patient flow in ED and find possible areas for improvement and do the best resource allocation. (Weng, Cheng, Ting Kwong, Wang, & Chang, 2011) state that the purpose of their research was to find an optimal allocation of resources in the emergency department through simulation. They use Simul8 and the result show that overall performance in ED can increase 8% by allocating new human resources. (Cochran & Broyles, 2010) propose making strategic decisions for future capacity based on patient safety (rather than congestion measures) in their study. (Ng, et al., 2010) in their study compare priorities and the differences between resource utilization in four-level of Taiwan triage and five-level of Canadian triage and acuity scale among patients. The results of this

study show that hospitalization rates, length of stay and medical resource consumption is different between the two systems, and Canada triage acts better in predicting patient acuity and resource utilization. (Berge Holm & Dahl, 2010) notice to increase 45% in patient's volume and its significant impact on patient flow in the emergency department and highlight this question to hospital managers "What is the lowest number of additional resources that would be needed in the ED, due to the patient volume increase, which would not compromise the patient flow?". They use discrete event simulation to answer this question. The results of this study show that increasing nurses from eight to nine and increased physician from eight to twelve is enough to meet the needs of the hospital's emergency department. (Ahmed & Alkhamis, 2009) by using simulation-optimization present a decision support tool for performance in an emergency department of a public hospital in Kuwait. The main purpose of this study is to evaluate the effect of different levels of staffing in service efficiency. This technique uses for determining the optimum number of doctors, nurses and lab technicians that need to maximize patient throughout and reduce patient's waiting time in system with budget constraints. (Withanachchi, Uchida, Nanayakkara, Samaranayake, & Okitsu, 2007) analyze the effect of resource allocation in public hospitals which are under the central health ministry. In this model it is supposed that hospital administrator and other agents looking for maximum quality (compared with profit). Mortality rate among patients was chosen as an indicator of quality and impact of resource allocation on this index are studied. Finding show that utilization of human resources due to insufficient funds (for example, medical equipment, etc.) is suboptimal and should be improved. (Khandekar, Mari, & Wang, 2007) focused on ED by using simulation in order to reducing patient's waiting time and increasing throughout. The findings were considered to facilitate the design care processes of a new hospital

3. Research methodology

3.1. System description

The hospital emergency department is open 24 hours a day in three morning, afternoon and night shifts. Medical services per shift are provided by 2 GPs, 1 specialist and 8 nurses and on call specialists.

Patients arrive by an ambulance or with their feet. Then, based on Emergency Severity Index are classified into five levels in triage stage. After visiting doctor they go on other care steps such as examination, injection, ECG and etc. At the end patients will exit from ED to continue their care in other parts of hospital or go to home.

3.2. Key performance indicators selection

After visiting and interviewing by ED manager three main key performance have identified that include resource utilization (%), average patient's waiting time (Min) and average total patient's length of stay (Min) in ED.

3.3. Data Collection

Data were collected by going directly to ED and using triage database and also tracing patients in different time intervals. In some cases that direct and random sampling wasn't possible, ED s daily and monthly data was used. All distributions were validated by using Kolmogorov Smirnov goodness of fit test with a 5% significance level *(Table1).*

Table 1: *Service time distributions at each stage of the process*

Input Parameter	Mean time for service	Variance	K-S Test	P-value	Distribution
Triage	1.23	0.42	1.2	0.08	Weibull
Reception	1.64	0.99	0.97	0.30	Possion
Visit	3.90	1.6	0.61	0.84	Possion
Injection	4.40	1.65	0.63	0.80	Normal
Minor Surgery	11.3	9.11	0.73	0.64	Exponential

3.4. Model validation

The aim of verification is to ensure that the conceptual model is reflected accurately in the simulation model. Validating is overall process of comparing a model and its behavior to the real system (Sadjadi, Soltani, Izadkhah, Saberian, & Darayi, 2011). At first the conceptual model had been confirmed and validated by ED senior managers and senior nursing staff. After running the simulation model since there is no significant difference between the real performances indicators compared with output of the model the validation is confirmed *(Table3).*

Table 2: *Model validation*

Difference (min)	Average simulation output (min)	Average real data (min)	Spend time in each stage
0.3	0.91	1.21	Triage
1.2	4.91	3.69	GP
0.13	1.52	1.65	Reception
1.1	5.62	4.5	Injection
0.4	6.9	7.3	ECG

4. Scenario analyses and discussion

Arena software is capable to give various outputs according to simulator purpose. As mentioned above, resource utilization, patient's length of stay, patient's waiting time are the most important key that we notice to ED simulation. For having sufficient accuracy in interpreting of simulation outputs, simulation has run in 10 replications that each replication consists of 365 days. The output shows the main resource utilization is in Beds, GPs and nurses that play important roles in patient's length of stay and waiting time *(Table 3).*

Table 3: *Model validation*

Key performance		Current system	Mean in 10 replications
Resource utilization	Bed	14	0.86
	GP	2	0.74
	Nurse	3	0.52

Lack of sickbeds in this ED is one of the main reasions for congestion and overcrowded that have direct effect on patient's length of stay and waiting time. By adding 1 bed, bed utilization rate 6% is decreased. This rate can be reduced to 11% by adding two beds. In the next step, increasing beds and their impact on patient waiting times and total length of stay is examined *(Table4).*

Table 4: *Relation of number of beds and average wanting time for taking bed and average length of stay for inpatient*

Bed	Average length of stay for inpatient(Min)	Improvement in average wanting time for taking bed %	Average wanting time for taking bed(Min)	Improvement in average length of stay for inpatient %
14 current system	59.6	-	603.6	-
15	31.63	46%+	576.5	4.4%+
16	15.22	74%+	564.2	6.5%+
17	8.35	85%+	558.1	7.5%+

According to analyses by adding sickbeds from 14 to 15 beds, the average waiting times for admission from 59.6 Minutes is reduced to 31.63 minutes and also cause 4.4 % improvement in the average length of stay. Adding two beds reduce waiting times form 31.63 minutes to 15.22 minutes and recovered 6.5% on average length of stay and adding three beds, reduced average waiting time for admission from 15.22 to the 8.35 minutes and improve 7.5% in average total length of stay for inpatients.

Another major source in ED is nurse. In the current system, the utilization rate of 3 nurses for inpatient is 52 percent while by increasing 1 nurse and 2 nurses the rate can be 49 and 47 respectively. Thus increasing 2 nurses will improve 9.6% in nurse utilization.

The analysis of results show although increaseing a nurse dosent have much impact on the average waiting time for taking bed but it will improve 0.58% in average average total length of stay for inpatients*(Table5).*

Table 5: *Relation of number of nurse and average wanting time for taking bed and average length of stay for inpatient*

Nurse	Average wanting time for taking bed (Min)	Improvement in average wanting time for taking bed %	Average length of stay for inpatient (Min)	Improvement in average length of stay for inpatient %
3 current system	59.6	-	603.6	-
4	59	1%+	600.1	0.58%+

One of the key resources in ED is GP. In the current system two GPs visit patients in per shift. By adding 1 GP, the rate of this resource is reduced 26% and it can affect outpatient length of stay directly. Outpatient arrival to ED until visiting a GP takes 12 minutes. While by adding 1 GP it can be 7 minutes and this has led to better patient flow for continuing treatment and also has 1.1% improvement in inpatient length of stay. In the following we notice to combined scenarios such as adding two beds and one GP or adding three beds and one GP. Table 6 shows summarize of different scenarios.

Table 6: *Simulation result under different scenarios*

Key performance		Current system	Adding one bed	Adding two beds	Adding three beds	Adding one Nurse	Adding one GP	Adding two beds and one GP	Adding three beds and one GP
Resource utilization (%)	Bed	0.86	0.80 6.9%+	0.75 12.7%+	0.71 17.4%+	0.86 -	0.86 -	0.75 12.7%+	0.71 17.4%+
	Nurse	0.52	0.52 -	0.52 -	0.52 -	0.49 5.7%-	0.52 -	0.52 -	0.52 -
	GP	0.74	0.74 -	0.74 -	0.74 -	0.74 -	0.48 35.1%+	0.48 35.1%+	0.48 35.1%+

Average wanting time(min)	Visit GP	4.91	4.92 0.2%-	5.1 3.8%-	4.87 0.81%+	4.98 1.4%-	0.89 81.8%+	0.89 81.8%+	0.88 82%+
	Taking bed	59.6	31.63 46%+	15.22 74%+	8.35 85%+	59 1%+	58.1 2%+	15.4 47%+	8.31 86%+
Average length of stay(min)	Outpatient	78.53	78.50 0.03%+	78.86 0.42%-	77.82 0.9%+	78.63 0.12%-	71.81 8.5%+	71.66 8.7%+	71.89 8.4%+
	Inpatient	603.6	576.5 4.4%+	564.2 6.5%+	558.1 7.5%+	600.1 0.58%+	602.9 1.1%+	559 7.3%+	553.8 8.2%+

For outpatient adding on GP has 81.8% reduction in waiting time and thus 8.5% improvement in length of stay. For taking bed Patients should wait 59.6 minutes that s too long and requires serious attention. The result show adding one GP and 3 beds have most improvement in both average wanting time and average length of stay and can be selected as best scenarios.

5. Conclusion

Patient satisfaction improvement is very important issue in the health sector. This aim can be achieved in various ways, such as reducing queues, costs, improve service quality. The current study focused on ED and resource utilization, patient's average wanting time and average length of stay. We present different scenarios and adding one GP and 3 beds is best scenarios in this part.

Using simulation considered as an effective tool for improvement in the health sector in many countries but in Iran has less attention to it. Unwillingness and lack of cooperation from authorities in the health sector is one of the main limitations of this study .Limitations in data collection and tracking patients at different times was another problem. But we hope that this paper can be the beginning of a new approach to application simulation and its potential benefits in the health sector in this country.

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Paper received: May 15th, 2014 Rad primljen: 15. maj 2014.
Approved for publication: June 1st, 2014 Odobren za štampu: 1. jun 2014.

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UPOTREBA SIMULACIJE S CILJEM POBOLJŠANJA UPRAVLJANJA LJUDSKIM RESURSIMA U BOLNICAMA

S a ž e t a k

Ambulanta hitne medicinske pomoći je jedan od ključnih delova zdravstvene zaštite. Povećana potražnja za urgentnom negom, gužve i ograničeni resursi uzrok su dugih čekanja pacijenata u ambulantama hitne medicinske pomoći. S druge strane, pacijenti ne bi trebalo predugo da se zadržavaju u njima. Dugo čekanje pacijenata dovodi do zagušenja i nereda. Ova studija teži smanjenju čekanja i dužine boravka pacijenata u ambulanti za hitne slučajeve.

Idealno rešenje, uvidom u rezultate simulacije, su dodatna tri ležaja i jedan doktor medicine što poboljšava korišćenje ležaja za 17,4% i 34,1% kvalitet stručne medicinske pomoći. Isto tako poboljšava prosek čekanja na doktora i hospitalizaciju za 82% odnosno 86%, pritom umanjujući dužinu boravka za 8%.

Ključne reči: ambulanta hitne pomoći, dužina boravka, resursna alokacija, simulacija

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UDC 332.122 ; 339.137.2
Original scientific paper

FACTORS SHAPING COMPETITIVENESS OF THE REGION

Regions are competing between themselves for the highest position in the country. Achieving and maintaining this position is associated with benefits such as attracting investors, the growth of entrepreneurship living in the region or commune, improvement of housing conditions, local enrichment, lower unemployment, lower social spending and the development of the real estate market.

The inventors of the region potential are: entrepreneurs, groups connecting various environments (clusters, associations), Special Economic Zones, knowledge, innovation, and the living conditions of citizens.

Regions compete with each other by using monuments, attracting investors and investing funds. The main factors of territorial competition are associated with local resources. The most common and most general division of territorial competitiveness factors are classified into internal and external. External factors include national and global environment, social, economic and spacious politics of the state and other organizations. Internal factors are local opportunities and development needs. They are in the local coordinate system and depend on local resources (quantity and quality of education inhabitants of commune or region, natural resources in the region, the policy of the region - pro-health, pro-family and pro-environmental, infrastructure), their accessibility, quality and efficiency of their use.

The aim of this article is to discuss about creators of region potential (mainly entrepreneurs, clusters, associations, Special Economic Zones), and the relationships between them.

Key words: clusters, local associations, special economic zones, the development of the region

1. Introduction

Region is contractually separated area, relatively homogeneously differed from neighboring areas of natural features or acquired historically. Regions are organized and artificial creations, which by coordinating the activities and relationships of its members and resources perform planned transactions with

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the environment, realizing goals of (administrative or economic) founders and participants (Jabłoński and Jabłoński, 2012, p. 11).

Regions want to achieve a high position in the country. Achieving and maintaining a high position is associated with numerous benefits: attracting investors, increase of entrepreneurship residency in the region or commune population, improvement of housing conditions, local enrichment, lower unemployment, lower social spending and the development of the real estate market - its activity and increase in value. Local governments have been equipped with various instruments that create the conditions for local development, such as the ability to develop programs and strategies, activity in the sphere of budget, regulatory powers in the area of tax law and spatial development, administrative decision, contracting and the ability to benefit from aid funds: domestic and foreign. Local development strategies are result of rationalization deployment of the forces, resources, and responsibilities of local authorities for shaping and stimulating development.

Regions compete for monuments, investors, financial resources and territory. The main factors of territorial competition are result the offer local resources that affect location choices of companies. The most common and most general division of territorial competitiveness factors are classified into internal and external.

External factors are politics, national and global environment of the region, linked to the social, economic and spatial policy state and other organizations.

The internal factors include all the local opportunities and development needs (Jewtuchowicz, 2005, p. 30) These factors are present in the local coordinate system and depend on local resources (quantity and quality of education inhabitants of the commune or region, natural resources in the region, regional policy - pro-health, pro-family and pro-environmental, infrastructure), their accessibility, quality and efficiency of their use.

The creators of potential of regions are: entrepreneurs, groups connecting the various environmental groups (clusters, associations), Special Economic Zones and innovation.

2. The entrepreneurs

The role of entrepreneurs in the region is very high. They create new and varied jobs, unique products, the people of region show their creativity and innovation (Szymańska, 2012, p. 42-54). The development of entrepreneurship contributes to reducing unemployment, creating infrastructure and cooperative service for incoming foreign investment getting them to influx of new technologies and methods. The entrepreneurs also are actively involved in process of changing

industrial structure of the region through creating production areas and services (Piasecki, 2001, p. 79).

Indicator of the economic activity of the region's population is the number of economic entities per capita. It is one of the most commonly used indicators for measuring disparities in economic development of community. But this is not a perfect indicator because it contains information on all registered entities - including those that do not have activity or it is not completed and checked out of the base (Dziemianowicz,Łukomska, Górska and Pawluczuk, 2009, p. 14).

3. The clusters

Changes taking place in the world (social, economic, technological) are a great challenge for market operators (Szymańska, 2013, p. 222). With the advance of globalization, maintaining the international competitiveness of the economy becomes more and more challenging. A new way of creating competitiveness of enterprises and regions is the concept of clusters (The Ministry of Economy, 2009, p. 1).

According to M. Porter's cluster is a geographic concentration of interconnected companies, specialized suppliers, companies from other related sectors or industries and economical institutions (e.g. universities, chambers of commerce) (Porter, 1990).

A more detailed definition of the cluster was reported by the Ministry of Economy in the Regulation of 11 December 2006 - [...] *This cluster spatial and sectoral concentration entities acting for economic development and innovation, and at least 10 businesses involved in business activities in one or several neighboring regions, competing and cooperating in the same or related industries and associated developed network of formal and informal nature, at least half of the entities within the cluster are entrepreneurs* (The Ministry of Economy, 2009, p. 12).

Enterprises operating in clusters are characterized by higher productivity, economic, scientific and research. In the cluster enterprises can achieve higher degree of innovation - the company starting in the cluster have external suppliers and partners. The benefits of cluster activity is the ability to generate higher productivity, innovation and competitiveness (Miszczak, 2010, p. 7).

A cluster or its surroundings can function well as other specialized units that make up the regional innovation system (Maskell, 2001, p. 921-943), such as technology transfer centers, technology incubators, incubators, technological parks and industrial parks (Boekholt and Thuriaux, 1999).

4. The association of local

Opportunities for the development of local communities depend on the ability to self-organize their efforts and the creation of collective action. The condition for local community engagement in the development of the area and use of its resources is to create social and economy capital in the country. Due to the low level of activity and involvement of rural communities in the local structures of particular importance for the development of rural areas have local action groups.

Local Action Group (LAG) is a type of partnership units typically created in rural areas, bringing together representatives of local organizations (public, private and non-government) and inhabitants of the area designated border communities States. Local Action Group implements Local Development Strategies in the area of population from 10 thousand to 150 thousand residents. This condition is, on the one hand - to provide »local« character, on the other hand - to provide adequate capacity for implementation of the Strategy (Fundusze Europejskie, 2012). A very important part of creating a LAG is that least 50% of its members belonged to the private and non-governmental sector.

Local Action Groups are responsible for creating and implementing a local development strategy for the territory and the spending of grants allocated for these purposes. Among the objectives pursued by the LAG show: prevention of unemployment, promotion/production of local products, social integration, social mobilization, cultural tradition, environment, natural values, development of tourism, entrepreneurship, development of agriculture and agricultural processing (Ministry of Agriculture and Rural Development, 2009, p. 14).

Creating environment conducive entrepreneurship and innovation is the most promising instrument to stimulate local development and building competitive advantage municipalities, cities and counties, but requires shaping appropriate intellectual capital, innovation culture, specialized resources and expertise. Therefore, this environment has taken various measures to maintain a high growth region. One such measure is the establishment and maintenance of Special Economic Zones.

5. The special economic zones

The Special Economic Zones (SEZs) are separated administratively Polish areas where investors can pursue economy activity on preferential terms – economy activity is regulated by a special, different than the rest of the country rules of taxation, customs duties, foreign exchange law, labor law, social rights, trade union rights, construction law, regulations governing land ownership, facilitated the transfer of profits and capital.

The purpose of the SEZs is to accelerate the development of regions by attracting new investment and promote the creation of jobs (Ługowska, 2012).

The Special Economic Zones (Tynela, 2010):

- are an instrument to compete for new investment;
- offer a comfortable and safe budget form for the state of public assistance;
- offer modern workplace - in the counties where is SEZs, unemployment is lower, sometimes even by 3 percentage points and GDP by up to 7.5% higher than in counties without zone;
- observed increased revenues to local budgets;
- stimulate local authorities to arm areas;
- cause the influx of innovative technologies;
- initiate the formation of cluster structures.

In Poland there are 14 SEZs. Their area is almost 16 thousand hectares. Special Economic Zones created more than 186 thousand new jobs. As of the end of the third quarter of 2012, the value of the investments in SEZs from the beginning of their existence was 83 billion 868 million zł, and the number of new jobs created in the SEZ was 186 584[1].

The primary objective of creating Special Economic Zones is to attract capital, especially foreign, for economic activation of selected areas (Brezdeń and Spallek, 2008, p. 217). The special economical zones invest most companies from Poland, Germany, the United States, the Netherlands, Japan and Italy (according to the origin of the capital)[2].

6. Innovations

The essence of the modern concept of constructing the competitive advantages of the region's is the ability to manage potential by using innovation. Innovation is one of the most important factors of economic growth of regions and community. In the modern world the ability to create and adopt innovations is the biggest challenge for regional and national governments, because innovation processes create their current and future economic situation (Szymańska, 2012, p. 324-326).

Innovation of the region is defined as „*the ability of the region to change, improve, reform and innovate in various fields of economic and social life [...] in order to improve the functioning of mechanisms to support development in the region*." (Przygocki, 2007, p. 144) Innovative region consists of: research potential, the level of human and social capital (education, matching education to the needs of the region), entrepreneurship and innovation, public authorities (own and

[1] Source: www.premier.gov.pl (2013)

[2] Source: www.premier.gov.pl (2013)

foreign), innovation of enterprises operating in the region, the development of the business and international environment (A broad-based innovation strategy for the EU, 2009).

Innovative commune is able to use the effects of the environment to increase the potential in an economic and ecological way (Donnelly, Gibson and Ivancevich, 1990, p. 27). Surroundings of innovative region are a set of institutions such as business incubators, centers for the promotion and development of innovation, technology parks, technology transfer centers, networks and relationships that bind them. A well-organized innovative surroundings commune stimulates local entrepreneurship, enables the transfer of technology and allows companies to support projects at any stage of development - from idea, through incubation, support in the development and exit the market (Okoń-Horodyńska and Zachorowska-Mazurkiewicz, 2007, p. 7).

7. Conclusion

The aim of the article was to characterize the creators region potential (mainly entrepreneurs, clusters, associations, Special Economic Zones) and the relationships between them.

The paper shows that differences in the level of socio-economic development of regions are inevitable, but appropriate use of potential of the region (businesses, community groups, clusters, Special Economic Zones and innovation) will increase the value of the region on a national and European level. This will improve the ability of quick introduction of modern technological solutions dependent on the knowledge, the skills of workers and entrepreneurs, which will form the basis for the economic success of regions and strengthen their position in the country and abroad. Competitive regions will attract capital for further development (domestic and foreign investments), stop owned factors of production, workers and residents. The high value of the region will be demonstrated by the ability to adapt to changes in the economy, technology and society.

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Paper received: May 15th, 2014
Approved for publication: June 1st, 2014

Rad primljen: 15. maj 2014.
Odobren za štampu: 1. jun 2014.

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FAKTORI KOJI OBLIKUJU KONKURENCIJU U REGIONU

S a ž e t a k

Regioni se međusobno takmiče za najvišu poziciju u zemlji. Postizanje i zadržavanje tog mesta je povezano sa prednostima kao što su privlačenje investitora, rast preduzetništva, poboljšanje stambenih uslova, niža nezaposlenost, manji socijalni izdaci, razvoj tržišta nekretnina, kao i lokalno bogaćenje.

Pokretači regionalnog potencijala su: preduzetnici, grupe koje povezuju razne subjekte (klasteri, udruženja), specijalne privredne zone, znanje, inovacije i uslovi za život stanovništva.

Regioni se međusobno takmiče koristeći spomenike, privlačeći investitore i investirajući kapital. Glavni fokus teritorijalne konkurencije je povezan sa kolalnim dobrima. Najčešći i najopštiji faktori u teritorijalnom takmičenju su unutrašnji i spoljni. Spoljni faktori se sastoje od nacionalne i globalne sredine, društvenih i ekonomskih potreba, kao i od politike prostornog planiranja države i drugih organizacija. Unutrašnji faktori su lokalne mogućnosti i potrebe razvoja. Oni se nalaze u sistemu lokalne koordinacije i zavise od lokalnih sredstava (količine i kvaliteta obrazovanja stanovništva regiona, prirodnih bogatstava regiona, kao i od politike regiona; da li podržavaju zdravstvo, porodicu, životnu sredinu i infrastrukturu), kao i od njihove dostupnosti, kvaliteta i efikasnosti upotrebe.

Cilj ovog rada je da se razgovara o pokretačima regionalnog potencijala (mahom preduzetnika, klasterima, udruženjima, specijanim ekonomskim zonama), i odnosa između njih.

Ključne reči: skupine, lokalne asocijacije, specijalne ekonomske zone, razvoj regiona